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Saving the Common Hamster from Extinction with the EU Habitats Directive: A Mandatory Recovery Effort, A Remediation of Past Non-Compliance or An Exercise in Futility?

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"Hope has two beautiful daughters: their names are anger and courage.
Anger that things are the way they are. Courage to make them the way they ought to be."
Saint Augustine (354–430)

Abstract

In spite of having been a strict protected species under the framework of the EU Habitats Directive for more than twenty years, the populations of Common hamster continue to plummet throughout Western-Europe. This is mainly the result of the intensification of agricultural practices and the increasing fragmentation of the remaining populations through urbanization. The present analysis reveals that the Habitats Directive is not merely concerned with maintaining the status quo but also requires EU Member States to restore the populations and habitat of strictly protected species to a favourable conservation status. This is especially the case when the ongoing decline of a species is partly the result of previous non-compliance by EU Member States with the strict protection rules that are included in Articles 12–16 of the Habitats Directive. The plight of the Common hamster, which is listed as a protected species on Annex IV of the Habitats Directive, represents an apt test case to assess the viability of the restoration credentials upon which the Habitats Directive is grounded. Through a thorough case-study of the recently adopted Flemish hamster protection program it is revealed that the concrete implementation of the restoration imperative underlying the Habitats Directive can give rise to certain ambiguities. However, it is submitted that Member States are principally obliged to bring back the populations of endangered species listed on Annex IV of the Habitats Directive to resilient levels, encompassing several thousand individuals. If need be, science-based reintroduction actions and habitat restoration measures are to be part of such comprehensive recovery policies. Also, conservation programs should not exclusively rely on voluntary measures, even when more collaborative approaches might be crucial for bolstering support amongst stakeholders. While on the surface the newly adopted Flemish hamster protection program appears to be a topnotch example of the recently emerged recovery rationale, its modest population targets and reluctant time-scale render it vulnerable legally speaking. If not quickly implemented, the last remaining Common hamsters in the Flemish Region will have disappeared well before the program takes full effect.

1. General introduction

When talking about species protection law, most people have the tendency to think of charismatic species, such as the Brown bear (*Ursus arctos*) or the Gray wolf (*Canis lupus*). However, within the European Union (EU), the unenviable fate of a little rodent species, the European or Common

hamster (*Cricetus cricetus*), has attracted relatively much attention amongst environmental lawyers and policy makers. While certainly not being the most emblematic species, the Common hamster has been at the center of, often vicious, judicial and policy debates surrounding the application and effectiveness of European species protection law over the past two decades. In the Netherlands, some elusive Common hamsters became the nemesis of several project developers and authorities since their presence appeared to be able to, at least temporarily, block project developments at the turn of the 21st century.[1] In Germany also, numerous infrastructure and private projects had to be revised or, in some instances, rejected as a result of the presence of Common hamsters.[2] On June 9, 2011, the plight of the Common hamster even made international headlines when France was condemned by the Court of Justice of the EU (CJEU) for its apparent failure to halt the dramatic decline of the species in the French Alsace.[3]

The many controversies surrounding the Common hamster in Western Europe might be hard to grasp for the reader which is not familiar with its current predicament. Across its global range, the Common hamster is still considered of least concern according to the IUCN Red List.[4] However, in many individual European countries, such as France, Germany, the Netherlands and Belgium, Common hamsters are now considered critically endangered and most local populations are on the threshold of extinction.[5] The intensification of agricultural practices, most notably the recent shift to maize cultivation by many farmers, is generally pinpointed as one of the chief culprits for the massive population reductions.[6] As a desperate move to halt the ongoing losses, the Common hamster was listed as a strictly protected species (Appendix II) under the 1979 Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention).[7] In 1992, the Common hamster was included in Annex IV to the Habitats Directive[8], implementing the strict protection schemes set out by the Bern Convention at EU level.

The stringent protection rules have yielded few results so far. While it is certainly true that, generally speaking, static preservation efforts have proven effective and necessary to stem the

[1] See more extensively: *J.M. Verschuuren*, De laatste wilde hamster in Nederland en de grondslagen van het Europees en international recht, W.E.J. Tjeenk Willink, 2000, Deventer, pp. 20–25. See also: *H. Schoukens & K. Bastmeijer*, Species protection in the European Union: How strict is strict? In: *C.H. Born, A. Cliquet, H. Schoukens, D. Misonne & G. Van Hoorick* (eds.), The Habitats Directive in its EU Environmental Law Context: European Nature's Best Hope?, 2015, Routledge, pp. 121–124.

[2] *F.V. Eppink & F. Wätzold*, Shedding light on the hidden costs of the Habitats Directive: the case of hamster conservation in Germany, Biodiversity and Conservation, 2008, 18(4), pp. 801–802.

[3] *S. Erlanger*, Ruling favors 10-inch citizen of France, NY Times, 9 June 2011, http://www.nytimes.com/2011/06/10/world/europe/10hamsters.html (Accessed 10 February 2017). See: Case C-383/09, Commission v France [2011] ECR I-04869. See also: *M. Clement*, What does the obligation of result mean in practice? The European hamster in Alsace, in *C.H. Born et al.*, *supra* note 1, pp. 9–20.

[4] According to the IUCN Red List Assessment, the Common hamster has substantially declined in almost all European range states (with the exception of Russia and Ukraine). See: http://www.iucnredlist.org/details/5529/0 (Accessed 10 February 2017).

[5] *K. Neuman et al.*, Multiple bottlenecks in threatened western European populations of the common hamster Cricetus cricetus (L.), Conservation Genetics, 2004, 5, pp. 181–193.

[6] See amongst others: *J.O' Brien*, Saving the common hamster (Cricetus cricetus) from extinction in Alsace (France): potential flagship species conservation or an exercise in futility?, Hystrix, the Italian Journal of Mammalogy, 2015, 26, pp. 89–90.

[7] Bern, 19 September 1979, in force 1 June 1982, UKTS No 56 (1982), Cmnd 8738. The Common hamster was listed in Appendix II to the Bern Convention.

[8] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora [1992] OJ L 206, p. 7 (further referred to as 'Habitats Directive').

ongoing population losses[9], they do no longer suffice for the Common hamster. In Western Europe, local populations of Common hamsters have crashed.[10] On the surface, the demise of the Common hamster could serve as yet another stark example of the inherent ineffectiveness of international and EU nature protection rules[11], at least when not adequately enforced and applied in the field.[12] It is indeed a well-known fact that, in spite of remarkable success stories, such as the recovery of large carnivores across their former range[13], the overall picture for the protected biodiversity in the EU remains bleak and worrisome.[14] The predicament of the hamster is thus not to be regarded as an anomaly. In fact, the populations of many other common species that used to be abundant in the countryside, such as farmland birds, have also experienced a worrisome drop over the past decades.[15]

In recent years, though, the emergence of popularized new concepts such as 'ecological restoration'[16] has prompted public authorities to return degraded ecosystems and the associated species to their historical trajectory.[17] Hitherto, existing nature conservation laws, such as the EU Nature Directives, were often implemented and applied with a focus on conservation rather than restoration.[18] Yet in light of the current shift towards recovery, some authors now speak of an 'emerging age of ecological restoration law'.[19] Over the past decades, ecological restoration has indeed slowly turned into a global environmental priority.[20] With progressive restoration policy targets present in both global and regional biodiversity targets[21], national and regional authorities are now urged to further operationalize the shift towards more comprehensive recovery policy. Under the umbrella of the 1992 Convention on Biological Diversity[22], the 2010 Aichi Targets set forth the goal of restoring at least 15% of degraded ecosystems by 2020.[23] Furthermore, the European Commission has explicitly included ecological restoration in the explicit policy targets that are included in the EU Biodiversity

[9] See for instance: *C. L. Gray et al.*, Local biodiversity is higher inside than outside terrestrial protected areas worldwide, Nature Communications, 2016, DOI:10.1038/recomms12306.

[10] See more on this: *M.L. Shaffer*, Minimum viable populations for species conservation, Bioscience, 1981, 31, pp. 131–134.

[11] *J.V. López-Bao et al.*, Toothless Wildlife Protection Laws, Biodiversity and Conservation, 2015, 2105.

[12] See also: *S. Leemans*, Preventing paper parks: How to make the EU Nature Laws work, WWF UK, 2017, http://www.wwf.eu/?291910/Preventing-Paper-Parks-How-to-make-the-EU-nature-laws-work (Accessed 10 February 2017).

[13] *G. Chapron et al.*, Recovery of Large Carnivores in Europe's Modern Human-Dominated Landscapes, Science, 2014, 346, p. 1517.

[14] *European Environment Agency*, State of nature in the EU Results from reporting under the nature directives 2007–2012, EEA Technical Report, No. 2/2015.

[15] See amongst others: *A. Gamero et al.*, Tracking Progress Towards EU Biodiversity Strategy Targets: EU Policy Effects in Preserving its Common Farmland Birds, Conservation Letters, 2016, DOI: 10.1111/conl.12292.

[16] See more extensively: *J. Aronson & S. Alexander*, Ecosystem Restoration is Now a Global Priority: Time to Roll up our Sleeves', Restoration Ecology, 2013, pp. 293–296. See also: *A. Telesetsky, A. Cliquet & A. Akhtar-Khavari*, Ecological Restoration in International Environmental Law, 2017, Routledge, pp. 22–25.

[17] *S. K. Allisson*, What do we mean when we talk about ecological restoration? An inquiry into values, Ecological Restoration, 2004, 22(4), pp. 281–286.

[18] See with respect to the EU Nature Directives: *A. Cliquet, C. Backes, J. Harris & P. Howsam*, Adaptation to Climate Change. Legal Challenges for Protected Areas, Utrecht Law Review, 2009, 5, p. 158.

[19] *B.J. Richardson*, The Emerging Age of Ecological Restoration Law, Review of European Community and International Environmental Law, 2016, 25, p. 277.

[20] *Aroson & Alexander*, *supra* note 16.

[21] See more extensively: *A Cliquet, K. Decleer & H. Schoukens*, Restoring nature in the EU: The only way is up? in C.H. Born et al. *supra* note 2, pp. 265–284.

[22] Convention on Biological Diversity, Rio de Janeiro, 5 June 1992.

[23] CBD, 2010, COP 10 Decision X/2, Strategic Plan for Biodiversity 2011–2020.

Strategy to 2020.[24] In line with its international obligations, the European Commission has adopted an overarching 15% restoration target.[25] Even so, putting these restoration commitments in practice turned out to be more complex than anticipated.

The absence of precise definitions of key concepts, such as the notions of 'degradation' and 'ecological restoration', renders it conspicuously difficult to measure the progress made towards the progressive recovery goals.[26] The recent challenges surrounding the survival of the Common hamster in Western Europe provide for a useful case-study in this respect, since both effective protection schemes and progressive introduction and habitat restoration efforts come into the picture. Increasingly, human efforts to reintroduce an endangered species to their historical range or to reinforce the genetic viability of a species population are considered crucial to stave off extinctions.[27] The declining trends of the few remaning hamster populations forced several governments to adopt ambitious conservation plans, including far-reaching measures such as captive breeding/restocking actions as the ultimate strategy to prevent imminent extinction. This was for instance the case in the Flemish Region (Belgium), where the Flemish government enacted a tailor-made Species Protection Program for the Common hamster in December 2015.[28]

To this date, however, many of these conservation efforts have failed to reverse the ongoing decline of the Common hamster. While the reasons for this failure are manifold, it is interesting to examine what specific legal-ecological standards are to be observed when further developing and implementing restoration strategies for endangered species. Some might contend that EU Member States such as Belgium (Flemish Region), where the Common hamster is virtually extinct, should be allowed to consider the recovery of the species a lost cause and prioritize the conservation of other threatened species. Why wasting valuable funds on compensation payments to farmers, for instance, when other endangered species of a potentially greater ecological importance might offer more realistic chances of conservation success? Others might argue that EU Member States have a legal obligation to avoid extinction of species that are strictly protected under EU nature conservation law.

This article aims to delve deeper into the legal restoration principles upon which EU nature conservation law is based, as applied vis-à-vis the predicament of the Common hamster. While the specific focus is on the plight the Common hamster in the Flemish Region, general lessons, which might also be instructive for national or regional recovery strategies for other EU protected species, are to be drawn from this case study. In

[24] European Commission, *Communication from the Commission to the European Parliament, the Council, the Economic and Social Committee and the Committee of the Regions, Our life insurance, our natural capital: an EU biodiversity strategy to 2020* (COM(2011) 244 final, 2011).

[25] See more extensively: *Cliquet, Decleer & Schoukens*, *supra* note 21, pp. 268–271.

[26] *D. Jørgensen*, Ecological restoration as objective, target, and tool in international biodiversity policy, Ecology and Society, 2016, 20(4), p. 43.

[27] *Richardson*, *supra* note 18. See on the necessity of reintroduction efforts for saving endangered species: *P.J. Seddon*, From reintroduction to assisted colonization: moving along the conservation translocation spectrum, Restoration Ecology, 2010, 18(6), pp. 796–802. See also: *IUCN/Species Survival Commission (SSC)*, Guidelines for reintroduction and other conservation translocations: version 1.0, IUCN/SSC, 2013.

[28] Decision of the Flemish Government of 21 December 2015 on the approval of the species action program for the Common hamster, Belgian Official Gazette 20 January 2016. The species protection program, which was drafted by the Flemish government, is included as an Annex to the decision. See: *Flemish Government*, Soortenbeschermingsprogramma voor de Europese hamster in Vlaanderen 2015–2020 (further referred to as 'Flemish hamster protection program', https://www.natuurenbos.be/SBPhamster (Accessed 10 February 2017).

a *first section*, both the protection and recovery duties under international and EU law for the Common hamster are examined in view of recent jurisprudential evolution before the CJEU. In a *second section*, the recent Flemish conservation efforts, and in particular the recently promulgated Flemish hamster protection program, are examined as a specific case study. The adequacy thereof is assessed against the benchmark of the Habitats Directive. In this context the following general research questions are looked into: (1) what is the exact material scope of the passive protection rules included in Article 12(1) of the Habitats Directive and can they be construed so as to include a positive obligation to foster the recovery of threatened species?; (2) what baseline has to be taken into account when establishing explicit population targets for Annex IV species?; (3) what types of recovery measures are to be considered by EU Member States when protecting endangered species?; and (4) to what extent can economic and social considerations limit the ambition level when adopting recovery plans?

2. The predicament of the 'Flemish dodo': a downward spiral towards extinction?

The Common hamster is native to a large area in Eurasia, extending from Belgium to Central Russia. Its main centre lies in the eastern steppic areas. For a considerable time, the species was regarded as an agricultural pest in Western Europe and nothing pointed towards its possible extinction over large tracts of its former range.[29] Within this westernmost part of the Common hamster's range, however, only a few isolated relict populations manage to survive, merely covering a minor part of its historic range.[30] More resilient hamster populations can be found in eastern Germany, the Czech Republic, Slovakia and Hungary.[31]

2.1 From agricultural pest to virtually extinct in just a few decades

Being a nocturnal or crepuscular species, the Common hamster is a solitary animal living in a complex burrow system, and eats seeds, legumes, root vegetables, grasses and insects.[32] Its habitat requirements confine its presence to loess and soft loam soils, which explains the fact that the species is seldom found close to coastal areas or in mountain chains.[33] Originally, the species' habitat consisted mainly of fertile lowland steppic grassland. However, since most of this habitat type in Central and Western Europe has been converted to agricultural land over the past two millennia or so, the Common hamster is now mostly found on agricultural fields and thus its presence is almost exclusively linked to human farming practices.[34] Today, the optimal habitat conditions of the Common hamster in countries such as Germany, Belgium, France and the Netherlands almost exclusively overlap with the most productive agricultural areas.[35] Whereas hamster

[29] *O' Brien*, *supra* note 6, pp. 89–91.

[30] *M.J.J. La Haye, K. Neumann & H.P. Koelewijn*, Strong decline of gene diversity in local populations of the highly endangered Common hamster (Cricetus cricetus) in the western part of its European range, Conserv Genet, 2012, 13, pp. 311–313.

[31] *O' Brien*, *supra* note 6, p. 90. See also: *Standing Committee (Bern Convention)*, Draft European Action Plan for the conservation of the Common hamster (*Cricetus cricetus*, L. 1758), 15 September 2008, Document T-PVS/Inf (2008), pp. 21–22.

[32] *European Commission*, Cricetus Cricetus – Factsheet, http://ec.europa.eu/environment/nature/natura2000/management/docs/Cricetus%20cricetus%20factsheet%20-%20SWIFI.pdf (Accessed 10 February 2017).

[33] *O' Brien*, *supra* note 6, pp. 89–90.

[34] It must be noted though that Common hamsters can be found within urban areas, such as in the city of Vienna, in Austria. See more on this topic: https://www.wien.gv.at/umweltschutz/naturschutz/biotop/feldhamster.html (Accessed 10 February 2017). In Ukraine, the presence of the Common hamsters in urban zones has been documented as well.

[35] *O' Brien*, *supra* note 6, pp. 89–90.

can occur in most annual crops, they do tend to prefer cereals and lucerne (alfalfa). Over the past decades, changes in agricultural practices have resulted in the reduction of the hamster's populations by more than 90% in Belgium, the Netherlands and the adjacent German federal state of North Rhine-Westphalia.[36] The nearby populations present in the *Alsace*-region in France have also been decimated.[37] For instance, it was recorded in France that the number of documented hamster burrows had decreased from 1 167 in 2001 to between 161 and 174 in 2007.[38]

The remaining populations of Common hamsters that are still present within the Flemish Region are to be distinguished from the populations in the Alsace. The former used to be connected with the populations in the nearby areas in the Netherlands (Province of Limburg) and the adjacent German federal state of North Rhine-Westphalia.[39] These subpopulations have all experienced substantial losses over the past decades.[40] This is strikingly illustrated by the situation in Belgium. Some forty years ago, the species still thrived throughout the extensive swaths of the provinces of *Brabant*, *Luik* and *Limburg*. By the end of the 1990s, the populations of the Common hamster were reduced to four isolated subpopulations.

A decade later, the populations in *Voeren* (*Limburg*) and *Hoegaarden* (*Vlaams-Brabant*) had vanished, with the remaining populations in the two remaining strongholds finding themselves on the verge of a total collapse. In 2012, it was estimated that a mere 30 to 50 Common hamsters were present within the Flemish Region, more specifically in *Wildooie-Tongeren* (*Limburg*). One Flemish environmental NGO even suggested that the last Common hamster had already gone extinct by then.[41]

2.2 The heavy toll of intensive agriculture, creeping urbanisation and climate change

Many scientists assume that the sharp decline in the populations of remaining hamsters in the westernmost parts of its range has sped up because its populations have dropped below the generally accepted 'genetically effective population size'.[42] The change in agricultural crops since the 1950s has significantly reduced the survival chances of the Common hamster. In particular, the recent shift towards maize cultivation at the expense of more hamster-friendly crops has been particularly detrimental to the medium-sized rodent species.[43] Recent research confirms that the presence of hamsters decreases as the presence

[36] *La Haye, Neuman & Koelewijn*, *supra* note 30, p. 311. See more extensively: *L. Kuiters, M. La Haye, G. Müskens & R. Van Kats*, Perspectieven voor een duurzame bescherming van de hamster in Nederland, Rapport 2022, Alterra, Wageningen, The Netherlands.

[37] *O' Brien*, *supra* note 6, pp. 90–91.

[38] See also: *M.L. Tissier, Y. Handrich, J.-P. Robin, M. Weitten, P. Pevet, C. Kourkgy & C. Habold*, How maize monoculture and increasing winter rainfall have brought the hibernating European hamster to the verge of extinction, Sci Rep., 2016, 6, p. 25531.

[39] Some scientists have argued that the Common hamsters from these populations are to be considered an individual subspecies *Cricetus cricetus canescens*, which is distinct from the *Cricetus cricetus cricetus* present in central and Eastern Europe. Recent molecular evidence does not seem to support the thesis. See more extensively: *K. Neumann, H. Jansman, A. Kayser, S. Maak & R. Gattermann*, Mutiple bottlenecks in threatened western European populations of the European hamster Cricetus cricetus (L.), Conservation Genetics, 2004, 5, p. 182; *I. Grulich*, Variability of Cricetus cricetus in Europe, Act. Sc. Nat. Brno, 1987, 21, pp. 1–53.

[40] *La Haye, Neuman & Koelewijn*, *supra* note 30, pp. 311–312.

[41] See: https://www.natuurpunt.be/nieuws/was-dit-de-laatste-wilde-vlaamse-hamster-20120817 (Accessed 10 February 2017).

[42] See: *M. La Haye, V. Verbist & H.P. Koelewijn*, Behoud van Vlaamse en Nederlandse hamsters: Genetisch herstel en akkerbeheer gaan hand in hand, Natuur.focus, 2010, pp. 159–160.

[43] *K. Ulbrich & A. Kayser*, A risk analysis for the Common hamster (Cricetus cricetus), Biological Conservation, 2004, 117(3), pp. 263–270.

of maize increases, in France as well as in Germany and the Netherlands.[44] In these countries, perennial fodder crops now constitute less than 6 % of the arable land, compared with 13–14 % in the early 1990s.[45] The adverse effects linked to the arrival of maize were further worsened by the simplification of rotations and the increasing popularity of improved machinery. Modern, intensive agriculture provides less vegetation cover for hamsters, which is vital to allow the species to eat and hide from predators.[46]

In addition, creeping urbanization and the fragmentation of the traditional habitats of the Common hamster have further compromised the survival chances of the remaining hamster populations. The growing fragmentation in densely populated countries and regions such as the Flemish Region and the Netherlands has exacerbated the ongoing decline of the increasingly rare rodent species, particularly in the westernmost part of its range. Consequently, the remaining populations have become less resilient and increasingly vulnerable to additional threats such as inbreeding and genetic loss.[47] Recent research even suggested that climate change might be an additional phenomenon negatively affecting the remaining hamster populations.[48]

3. Law in books: moving from protection to recovery within the framework of the Habitats Directive?

Before addressing the effectiveness of the recent recovery efforts undertaken in the Flemish Region to halt the decline of the Common hamster, a further understanding of the applicable EU legal standards as to species protection is necessary. For it is precisely the strict protection system, which is often referred to as the 'second pillar' of the Habitats Directive, that serves as an appropriate yardstick to assess the implementation efforts of the EU Member States which still host declining hamster populations. These rules are to be distinguished from the relatively well-known 'first pillar' of the Habitats Directive, which aims to conserve and restore natural habitats and the habitats of species through the establishment of the Natura 2000 Network.[49] In recent years, the comprehensive set of rules contained in Articles 12–16 of the Habitats Directive has become increasingly relevant when reviewing a EU Member State's adherence to its conservation duties concerning endangered species. This coincided with seminal jurisprudential developments before the CJEU, which highlighted the legal teeth of the protection duties, and the publication of the non-binding Guidance on Strict Species Protection by the European Commission in 2007.[50]

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[44] *Tissier et al.*, *supra* note 38.

[45] *Orbicon, Ecosphère, ATECMA & Ecosystems LTD*, Species report Cricetus cricetus, Wildlife and sustainable farming and the Birds and Habitats Directive 2009, Brussels, Wildlife and Sustainable Farming Initiative.

[46] For instance, in the Netherlands, hamster populations suffered from important decline caused by increased predation rates. See: *M. La Haye, T.E. Reiners, R. Raedts, V. Verbist & H.P. Koelewijn*, Genetic monitoring to evaluate reintroduction attempts of a highly endangered species, Conservation Genetics, 2017, DOI 10.1007/s10592-017-0940-z.

[47] *La Haye, Neuman & Koelewijn*, *supra* note 30, pp. 310–313. In some literature, however, the presupposition that intensive agriculture is the main cause of the demise of the Common hamster is questioned: *S. Monecke,* All things considered? Alternative reasons for hamster extinction, Zool. Pol., 2013, 58, pp. 41–57.

[48] *Tissier et al.*, *supra* note 38.

[49] For a recent overview of the protection and conservation duties enshrined in Article 6 of the Habitats Directive, see: *N. De Sadeleer*, Assessment and authorisation of plan and projects having a significant impact on Natura 2000 sites in *B. Vanheusden & L. Squitani* (eds.), EU environmental and planning law Aspects of large-scale projects, 2015, pp. 281–320.

[50] This Guidance document has to be seen as support for the EU Member States on how to fulfil their obligations with regard to the implementation of the Habitats' Directive. *European Commission*, Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC (further referred to as 'Guidance on Strict Species Protection'), 2007, http://ec.europa.eu/environment/nature/conserva-

3.1 The fundamentals underpinning Articles 12–16 of the Habitats Directive

For strictly protected species such as the Common hamster, the EU Member States are primarily obliged to implement and observe the protection duties contained in Article 12(1) of the Habitats Directive. Under the latter provision, which also serves to implement the protection duties set out by Article 6 of the Bern Convention within the EU, EU Member States must take the requisite preventative measures to establish a system of strict protection for the animal species listed in Annex IV(a) in their natural range, prohibiting deliberate disturbance of these species, particularly during the period of breeding, rearing, hibernation and migration, and any deterioration or destruction of breeding sites or resting places.[51] While the exact application of these protection rules might appear distant from the context of recently established recovery programs, a clear understanding of the exact repercussions of this set of strict protection duties is key to fully grasp the extent of the recovery duties incumbent on the EU Member States with respect to protected species such as the Common hamster, and the seminal challenges associated therewith.

3.1.1 Strict implementation duties: the Common hamster as a common natural heritage for the entire EU?

Already in its first decisions on the protection duties included in Article 12(1) of the Habitats Directive, the CJEU underscored that threatened species form part of the European Union's natural heritage.[52] Therefore, the adoption of conservation measures for endangered species such as the Common hamster is to be considered a 'common responsibility' of all EU Member States.[53] EU Member States have thus a particular duty to ensure that their legislation intended to transpose that directive is clear and precise.[54] In contrast to the well-known provisions on area protection included in Article 6(2)-(4) of the Habitats Directive, the application of the strict rules on species protection does not hinge upon the subsequent designation of protected areas, such as Natura 2000 sites.[55] The protection duties directly apply throughout the territory of a EU Member State and are thus not solely limited to protected sites. The necessity of establishing a system of direct protection was further motivated by the finding that species with flexible habitat requirements, such as the Common hamster, were less suitable for traditional area protection measures.

Furthermore, it needs to be noted that the CJEU, when reviewing the implementation efforts of EU Member States, does not limit itself to checking whether the national or regional rules ensure a full, clear and precise transposition of Article 12(1) of the Habitats Directive. This so-called 'second level of enforcement' was strikingly illustrated by the CJEU's 2002 decision in the *Carretta Carretta* case.[56] In these infringement proceedings, Greece was not only condemned for not having established the necessary legal framework for the protection of sea turtles but

tion/species/guidance/pdf/guidance_en.pdf (Accessed 10 February 2017).

[51] For more guidance on the practical repercussions of these protection requirements, see: Guidance on Strict Species Protection, *supra* note 50, pp. 35–49. See also: *C. George QC & D. Graham*, After Morge, where are we now? In: G. Jones QC (ed.), The Habitats Directive – A Developer's Obstacle Course, 2012, pp. 46–53.

[52] See for instance: Case C-6/04, Commission v UK [2005] ECR I-09017, para. 25. See more extensively: *Schoukens & Bastmeijer*, *supra* note 1, pp. 131–134.

[53] Ibid.

[54] Case C-98/03, Commission v Germany [2006] ECR I-00053, paras. 59 and 60.

[55] See Article 4(5) of the Habitats Directive. See for a recent application of Article 6(2) in a context of species protection: Case C-504/14, Commission v Greece [2016] ECLI:EU:C:2016:847, para. 158.

[56] Case C-103/00, Commission v Greece [2002] ECR I-01147.

also for not having taken any concrete, effective measures in order to protect the beaches from disturbing recreational activities and illegal damaging constructions.[57] In the past years, Ireland was also convicted for not having sufficiently protected several Annex IV bat species[58], while both Cyprus[59] and (once again) Greece[60] were condemned for not having provided sufficient protection measures for several endangered snake species.

Most importantly, however, is the 2011 landmark-ruling of the CJEU, in which France was held for not having implemented sufficient protection measures to preserve the Common hamster in the Alsace region.[61] Here, the CJEU did not explicitly hold that Article 12(1) of the Habitats Directive is to be interpreted as an 'obligation of result'. Still, the strict scrutiny with which it assesses the French protection efforts suggests that it clearly goes beyond what is traditionally viewed as a best-efforts clause.[62] It is moreover interesting to note that the CJEU checked the French conservation efforts, among other things, in view of the undisputed population declines that had been recorded between 2001 and 2007.

3.1.2 The disturbance prohibition: outlawing detrimental agricultural practices?

Evidently, strict protection duties can indirectly lead to better survival chances for species such as the Common hamster, since they force EU Member States to ban the most detrimental farmland practices in areas where the species is still present. For a considerable time, though, the exact spatial repercussions of the strict species protection scheme remained unclear. On the surface, this might help to explain the further decline of a strictly protected species such as the Common hamster, especially when considered together with the relatively inadequate implementation and poor enforcement of the Habitats Directive in many EU Member States throughout the 1990s.[63]

The wording of the protection duties contained in Article 12(1) of the Habitats Directive is relatively straightforward in itself. In fact, the protection duties aim to outlaw any type of activity that has a negative impact on protected species. This was first illustrated by the abovementioned *Caretta caretta* case, where the CJEU explicitly came to the conclusion that the use of mopeds on the sand beach and the presence of pedalos and small boats in the water, in clear defiance of the applicable protection measures, clearly constituted a 'deliberate disturbance' of the sea turtles during the breeding period for the purposes of Article 12(1)(b) of the Habitats Directive.[64] In a subsequent ruling concerning the potentially detrimental Spanish hunting practices, the CJEU again opted for a rather liberal understanding of the latter notion.[65] Following this case-law, it had become clear that land use

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[57] Ibid, para. 40.

[58] Case C-183/05, Commission v Ireland [2007] ECR I-137.

[59] Case C-340/10, Commission v Cyprus [2012] ECLI: EU:C:2012:143, para. 61.

[60] Commission v Greece [2006] ECR I-42.

[61] Commission v France, *supra* note 3.

[62] The mere fact that the CJEU recently seemed to align infringements of Article 6(2) of the Habitats Directive, which is viewed as an obligation of results, with violations of Article 12(1) of the Habitats Directive, seems to point in that direction. See, for instance: Commission v Greece 2016, *supra* note 55, para. 157–159.

[63] See for instance: *L. Krämer*, EU Environmental Law, Sweet and Maxwell, 2011, section 5.14. See also more recently: *L. Krämer*, Implementation and enforcement of the Habitats Directive, In: *C.H. Born et al.*, *supra* note 1, pp. 229–244.

[64] Commission v Greece, *supra* note 56, para. 36. For a more recent example of the relevance of Article 12(1) of the Habitats Directive in relation to land-use activities, recreational activities and permitted constructions: Commission v Greece, *supra* note 55.

[65] Case C-221/04, Commission v Spain [2006] ECR I-04515, para. 71. See also: Guidance on Strict Species Protection, *supra* note 50, p. 40.

restrictions might be in order to ensure an effective application of Article 12(1)(b) of the Habitats Directive.[66] In other words, the scope of the protection rules is not to be confined to a limited class of harmful activities. Any type of activty and/or operation that could interfere with strictly protected species might need to be subjected to further scrutiny.

The latter interpretation was subsequently endorsed by the European Commission in its 2007 Guidance on Strict Species Protection, in which it was specified that the system of strict protection is also applicable in the context of ongoing activities, such as intensive agriculture, which have not been made subject to a prior authorisation. As such, these findings are not unimportant for the context of the Common hamster. While the European Commission recognised that extensive agriculture could benefit certain farmland species such as the Common hamster, EU Member States are still required to take avoidance measures where shifts in ongoing land use are damaging for species.[67] And even if part of the decline of a species can be ascribed to measures supported by the EU's Common Agricultural Policy (CAP), this does not authorize a EU Member State to disregard its obligation to avoid further deterioration for endangered species.[68] To some extent, this rationale can also be distilled from the ruling of the CJEU in the French hamster case, since at no point the EU judges refrained from scrutinizing France's agri-environment measures in view of shifting agricultural practices.[69] In this respect, it is important that the definition of 'natural habitat' in the Habitats Directive covers both 'entirely natural' and 'semi-natural', which implies that even secondary, anthropogenic habitats have to be preserved and/or restored, if necessary, for the recovery of Annex IV species. *Ergo* it would be erroneous to justify a lack of comprehensive conservation measures for a species like the Common hamster by referring to the fact that the species is apparently no longer able to maintain itself in its farmland habitat.[70]

3.1.3 The deterioration prohibition: towards a wider protection of hamster burrows against destruction?

Whereas a restrictive understanding of the disturbance prohibition might still grant the EU Member States some leeway since its application requires the passing of a certain significance threshold and also entails that there was an intentional element, the prohibition on deterioration and destruction included in Article 12(1)(d) of the Habitats Directive leaves less room for compromise. In its 2006 decision on the German implementation schemes, the CJEU held that '(g)iven the importance of the objectives of protecting biodiversity which the Directive aims to achieve, it is by no means disproportionate that the prohibition laid down in Article 12(1)(d) of the Habitats Directive is not limited to deliberate acts'[71]. The relevance of the prohibition on deterioration and destruction of breeding sites or resting places in the context of hamster protection is further underscored by Advocate General Kokott in her Opinion in the French hamster case. In this context, she clarified that 'an unfavourable conservation status gives rise to more far-reaching obligations for the EU Member States (…) because the system of protection is intended to help to restore a favourable conservation status. The protection of breeding sites and resting places of

[66] *George QC & Graham*, *supra* note 51, p. 47.
[67] Guidance on Strict Species Protection, *supra* note 50, p. 31.
[68] See, by analogy: Case C-96/98, Commission v France [1999] ECR I-8531, par. 40.
[69] Commission v France, *supra* note 3, paras. 26–34.
[70] *Y. Epstein, J.V. Lopez-Bao & G. Chapron*, A Legal-Ecological Understanding of the Favorable Conservation Status for Species in Europe, Conservation Letters, 2015, 9, p. 84.
[71] Commission v Germany, *supra* note 54, para. 55.

a species with a very unfavourable conservation status (…) therefore requires a generous delimitation of territory in order to prevent the species from disappearing, and thus the functionality of the sites from being lost'[72]. Accordingly, EU Member States need to put forward a coherent and coordinated scheme of preventative measures in order to prevent actual damage to or the destruction of breeding sites or resting places[73], including the habitats surrounding the hamsters' burrows.[74] The destruction of such sites, either through agricultural practices or through construction works, is to be banned. By contrast, Advocate General Kokott posited that planning developments should not necessarily be prohibited in areas which are only potentially usable for Common hamsters.[75] In its ruling of 9 June 2011, however, the CJEU did not expressly shed light on the territorial scope of the protection duties.

Even so, it should be noted that according to the applicable French planning rules in the 'repopulation areas' in the French Alsace, any urbanisation project of a hectare or more had to prove the absence of any harmful effect on that species by a specific study and, if no such evidence was provided, could be carried out only provided a ministerial exemption was obtained. The latter understanding appears to be implicitly endorsed by the EU judges' reasoning. Amongst others, the CJEU underlined that EU Member States cannot exempt small-scale spatial interventions in these repopulation areas from a prior assessment as to their potential impacts on the Common hamster, as had been the case in France.[76] Otherwise, endangered species might easily fall victim to a 'death by a thousand-cuts' phenomenon, where incremental losses, if left unaddressed, are able to jeopardize the very survival of a species.

When considered together with the above-treated case-law evolutions[77], the wide scope of the deterioration prohibition seems to imply that conservation measures are to be proactively integrated into spatial planning procedures. It can be put forward that this could, in some instances, require EU Member States to take into account future repopulation zones for endangered species in their planning efforts. Likewise, no planning permits are to be granted for spatial projects in areas still occupied by protected species, unless sufficient information is available which indicates that no adverse effects are expected or, as the case may be, a derogation through Article 16(1) of the Habitats Directive has been obtained prior to the activities. This interpretation finds further support in Article 3(2) of the Bern Convention, which stipulates that Contracting Parties need to take into account the conservation of wild flora and fauna in their planning and development policies.[78]

On a more general level, the recent case-law developments prompt EU Member States to contemplate additional surveillance and monitoring measures, such as information campaigns, aimed at ensuring that those likely to commit an offence (intentionally or not), such as farmers or project developers, are fully aware of the prohibition in

[72] Opinion Advocate General Kokott, Case C-383/09, Commission v France [2011], para. 37.

[73] See amongst others: Commission v Ireland, *supra* note 58, para. 29; Commission v Cyprus, *supra* note 59, para. 61.

[74] *H. Schoukens*, Going beyond the Status Quo: Towards a Duty for Species Restoration under EU Law, in V. Sancin & M.K. Dine (eds.) International law: contemporary concerns and challenges in 2014, GV Založba, Ljubljana, Slovenia, pp. 350–351.

[75] Opinion Advocate General Kokott, *supra* note 72, par. 87.

[76] Commission v France, *supra* note 3, paras. 34–35.

[77] See most notably: Commission v Ireland, *supra* note 58, paras. 34–37. See more extensively: *George QC & Graham*, *supra* note 51, pp. 67–71.

[78] See more extensively: *C. Sobotta*, The impact of species protection on land-use planning: towards a more proactive approach? In: *C.H. Born et al.*, *supra* note 1, p. 150.

force and act accordingly.[79] A similar rationale is also reflected in Article 11 of the Habitats Directive, which imposes the obligation on EU Member States to monitor and assess species populations and which is, according to the CJEU, deemed crucial to ensure the effectiveness of the Habitats Directive.[80] Moreover, according to Article 12(4) of the Habitats Directive, EU Member States are to establish a system to monitor the incidental capture and killing of the animal species listed in Annex IV (a). In light of the information gathered, EU Member States have the obligation to take further research or conservation measures, as required, to ensure that incidental capture and killing do not have a significant negative impact on the species concerned.

3.1.4 Room to bargain: no general exemptions for damaging activities?

It is striking to note that the major threats for the Common hamster, such as intensive agricultural activities and fragmentation of the few remaining hamster habitats, in theory had to be scrutinized from 1994 onwards, at a very minimum in these areas where the Common hamster was still present at the time. The mere fact that detrimental effects to hamsters are caused by a 'lawful activity', such as a building project for which a prior planning permit has been granted or agricultural activities that are exempted from the obligation to obtain a prior permit, does not exempt the activity from the scope of the Habitats Directive.[81] Activities that are detrimental to protected species, of which the negative effects cannot be mitigated, can only be authorized through the application of the derogation clause contained in Article 16(1) of the Habitats Directive. Even so, the CJEU has adamantly held that this clause is to be interpreted in a restrictive manner and imposes on the authority taking the decision the burden of proving that the conditions are present for each derogation.[82]

First and foremost, it is important to reiterate that no general exemption is provided for private spatial interventions, nor for harmful agricultural activities under the Habitats Directive.[83] Under Article 16(1)(c) of the Habitats Directive, projects that can be framed within 'imperative reasons of overriding public interest' are still permissible. However, as can be inferred from the recent case-law[84] and the Commission's 2007 Guidelines[85], this derogation clause needs to be interpreted in a restrictive manner, excluding mere private-led developments. In addition, the granting of a derogation seems to presuppose a rather restrictive balancing exercise, in the context of which it needs to be checked whether no other satisfactory alternatives exist.[86] In the context of this balancing exercise, also recovery considerations might need to be taken into account.

Recent case-law developments indicate that, when considering other reasonable alternatives, economic factors cannot prevail.[87] In other words, the mere fact that a location alternative might be more costly does not render it 'unreasonable' in terms of the derogation clause, especially not when it guarantees that no damage is done to a

[79] Guidance on Strict Species Protection, *supra* note 50, p. 40.
[80] Commission v United Kingdom, *supra* note 52, paras. 26 and 65–68.
[81] See, by analogy: Commission v United Kingdom, *supra* note 52, para. 109.
[82] See for instance: Case C- 342/05, Commission v Finland [2007] ECR I-04713, paras. 20; Commission v Ireland, *supra* note 58, para. 48.
[83] *Schoukens & Bastmeijer*, *supra* note 1, pp. 141–145.
[84] See by analogy: Case C-182/10, Solvay and Others v Région Wallonne [2012] ECLI:EU:C:2012:82, paras. 75–79.
[85] Guidance on Strict Species Protection, *supra* note 50, p. 55.
[86] *Schoukens & Bastmeijer*, *supra* note 1, pp. 143–144.
[87] Ibid, p. 144. See by analogy in the context of Article 6(2) of the Habitats Directive: Case C-399/14, Grüne Liga Sachsen eV et al. v Freistaat Sachsen [2016] ECLI:EU:C:2016:10, para. 73–74.

species' habitat. Recourse to Article 16(1) derogations must remain a last resort and, in principle, precedence is to be given to the preservation of EU protected species over generic economic interests.[88] *A fortiori* such strict reasoning is to prevail in the context of a strict protected species which finds itself on the brink of extinction. Lastly, it is to be guaranteed that the project is not prone to be detrimental to the maintenance of the populations of the species concerned at a favourable conservation status throughout their natural range. Additional mitigation and compensatory measures can be required in order to avoid net losses.[89]

3.1.5 Conflicting interests: an increasing number of deadlock scenarios in planning context due to rapidly declining numbers?

The exact spatial repercussions of the strict protection schemes on land use activities have not remained unnoticed, at least in some EU Member States. In the Netherlands and Germany, where the implementation deficit with respect to EU environmental law is generally considered relatively low, project developers are now facing increasing scrutiny when considering new project developments in areas where protected species, such as the unlikely Common hamsters, might be present.[90] In Germany, for instance, the building of an IKEA store led to the legal protection of an area of 450 ha of mostly agricultural land and some residential zone as a compensation zone, in the context of which a breeding program was established.[91] The administrative burden and hidden costs associated with the presence of Common hamsters, which often cause project developers to consider buffer zones and relocation measures, led several German members of European Parliament to call into question the 'rigorous' protection regime that was applicable to the rodent species, especially since the species is still thought to be abundant in the eastern parts of its range.[92] To some extent, such requests can be deemed reasonable since the primary cause for the decline of the hamster populations was the technological evolution in agriculture rather than the adverse effects of new project developments. However, the foregoing request was denied by the European Commission since it was of the opinion that the rodent species is still highly endangered in Germany and thus further recovery actions were in order.[93] Either way, if not adequately and proactively tackled in an early stage of decision-making procedures for project developments, the presence of the Common hamster can give rise to deadlock scenarios, as showcased by the obstacle course that had to be faced in the renowned Dutch hamster case, which was already alluded to above.[94] To give but one example, in 1999, a zoning plan for the construction of a cross-border industrial zone was quashed by the Dutch Council of State given the fact that the planning authority had not considered its possible impact on Common

[88] Guidance on Strict Species Protection, *supra* note 50, p. 55.

[89] Ibid, p. 63

[90] See on the Netherlands more extensively: *R. Beunen & M. Duineveld*, Divergence and Convergence in Policy Meanings of European Environmental Policies: The Case of the Birds and Habitats Directive, International planning studies, 2010, 15, pp. 321–334.

[91] *Eppink & Wätzold*, *supra* note 2, p. 802.

[92] Written question E/2510–2007 by by Albert Deß (PPE-DE) and Anja Weisgerber (PPE-DE) to the Commission, 14 May 2007, OJ C 45, 16 February 2008.

[93] Answer to written question E/2510–2007 by Mr. Dimas on behalf of the Commission, 27 June 2007, OJ C 45, 16 February 2008.

[94] See more extensively: *J. Verschuuren*, Effectiveness of Nature Protection Legislation in the European Union and the United States: the Habitats Directive and the Endangered Species Act, In: *M. Dieterich & J. van der Straaten* (eds.), Cultural landscapes and Land Use: The Nature Conservation-Society Interface, Kluwer Academic Publishers, 2004, pp. 55–56.

hamsters.[95] Rather ironically, though, the Dutch Council of State ultimately decided to validate the planning permits since no Common hamsters had been documented on the sites for more than 4 years.[96] While the case did not as such focus on the restoration rationale underpinning the Habitats Directive, the Dutch judges seemed to give less importance to the recovery potential of the said area, for instance as potential repopulation area for Common hamsters. In fact, the absence of hamsters on the site was sufficient to ultimately reject the legal challenges against the project development.

3.2 Towards a *recovery-based* rationale in respect of species on the brink of extinction[97]

As already demonstrated, strict prohibitions can also influence habitat management and foster species recovery.[98] Prohibitions can be formulated in such comprehensive terms that they practically amount to active obligations if they permit only the behaviour that is specifically required.[99] However, merely preserving actual habitats, even when applied in a more progressive manner and vigorously enforced, is no longer sufficient for the Common hamster in view of the myriad threats the species is facing nowadays.[100]

3.2.1 Passive prevention and beyond: species action plans as leverage for a more proactive management approach?

On the surface, Article 12(1) of the Habitats Directive appears to be exclusively preoccupied with what might be referred to as 'traditional' passive protection measures. It does not contain a reference to restoration nor to the drafting of recovery plans, as most nature conservation laws do. Still, the adoption of more actively inspired or area-oriented species protection plans is generally seen as an adequate means to ensure an effective regime for the protection of Annex IV species. In its 2007 Guidance on Strict Species Protection, for example, the European Commission advocates the adoption of '*species actions plans*' as tools to put the strict schemes on species protection in practice.[101]

The latter hints that Article 12(1) of the Habitats Directive presupposes a more proactive approach of species protection, ultimately aimed at helping species in peril stabilize and improve, if needed. Although the 2007 Guidance on Strict Species Protection does not provide for a detailed template for such action plans, it is generally believed that, if such plans are correctly established and applied, they might enable a more tailored approach to species protection, including potential recovery measures.[102] Ideally, such plans could provide important information on species and their habitats, breeding sites and resting places, and set out specific recommendations and actions aimed at ensuring the successful conservation of the species in question. Also, Article 8(f) of the Convention on Biological Diversity refers to the implementation of plans and strategies in order to achieve recovery and resto-

[95] Dutch Council of State, Case no. E01.97.0672 (1999).
[96] Dutch Council of State, Case no. 200100856/23 (2002).
[97] See more extensively: *H. Schoukens*, Towards a legally enforceable duty to restore biodiversity under EU Nature Conservation Law: On wild hamsters, the rule of law and species extinction, In: J. Jendroska & M. Bar (eds.), Procedural environmental rights: Principle X of the Rio Declaration in theory and practice (Provisional title), Wroclaw, 2018, *submitted*.
[98] Opinion Advocate General Kokott, *supra* note 72, para. 46.
[99] Ibid, para 47.
[100] See amongst others: *La Haye, Verbist & Koelewijn*, *supra* note 42, pp. 163–166; O' Brien, *supra* note 6, pp. 92–94.
[101] Guidance on Strict Species Protection, *supra* note 50, p. 29.
[102] See also, in this respect: Opinion Advocate General Léger, Case C-183/05, Commission v Ireland [2007], para. 39.

ration. The relevance of population management plans can equally be deduced from the Carnivore Guidelines[103], which were prepared by a Specialist Group of the IUCN Species Survival Commission and were published by the European Commission in 2008.[104] The necessity to implement species action plans, moreover, finds support in recent jurisprudence of the CJEU. For instance, in its 2007 ruling on the Irish implementation regime the Court held Ireland liable for not having adopted such plans for the majority of the Annex IV species that are present on its territory.[105] Yet it remains farfetched to hold that there exists something as an explicit duty to draft species action plans for all Annex IV species present on the territory of an EU Member State, especially when the said species are already at a favourable conservation status.

As to the substance of such plans, the European Commission mainly stressed the importance of having included a strict set of preventative measures therein. This led the European Commission to conclude in its 2007 Guidance on Strict Species Protection that 'Article 12 should not be interpreted as requiring the adoption of pro-active habitat management measures, such as for example the restoration or improvement of habitats for certain species.'[106] Admittedly, the Commission acknowledged that such repopulation or restoration measures might still be in order for certain species. Still, they are only obligatory in the context of designated Natura 2000 sites.[107] However, in the Commission's opinion, this would require measures covered by Article 6(2)-(4) of the Habitats Directive. The viewpoint of the European Commission, as included in the 2007 Guidance on Strict Species Protection, is non-binding yet it seems to be common sense not to deduce an active restoration or recovery obligation from a provision which merely sets out a passive protection scheme. Be that as it may, a closer look at the wording of the Habitats Directive indicates that this is a foregone conclusion, even regarding the specific system of strict protection for Annex IV species.[108] It can indeed be portended that the wording of several core provisions indicates that the Habitats Directive can, at least partly, serve as an important catalyst for ecological restoration at the EU Member States' level, also as regards Annex IV species. In article 1, a) of the Habitats Directive, the notion of 'conservation' is defined as 'a series of measures required to maintain or restore the natural habitats and the populations of species of wild fauna and flora at a favourable status'. Hence, when Article 2(1) of the Habitats Directive states that the general aim of the Habitats Directive is to contribute to ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora, this also encompasses the restoration measures, if necessary, to achieve the 'favourable conservation status' for the species listed in its annexes.

Pursuant to Article 1(i) of the Habitats Directive, a favourable conservations status presupposes, among other things, that a *sufficiently large habitat* is available to maintain populations in the long run. This might entail the implementation

[103] *J.D.C. Linnell, V. Salvatori & L. Boitani*, LCIE Guidelines for population level management plans for large carnivores, 2008, http://ec.europa.eu/environment/nature/conservation/species/carnivores/pdf/guidelines_for_population_level_management.pdf (Accessed 10 February 2017), pp. 26–29.

[104] See more extensively: *A. Trouwborst, L. Boitani & J.D.C. Linnell*, Interpreting 'favourable conservation status' for large carnivores: how many are needed and how many are wanted?, Biodiversity and Conservation, 2016, pp. 51–52.

[105] Commission v Ireland, *supra* note 58, paras. 14–15.

[106] Guidance on Strict Species Protection, *supra* note 50, p. 26.

[107] Ibid, p. 20.

[108] See for a more detailed analysis: *Schoukens*, *supra* note 97; *Cliquet, Decleer & Schoukens*, *supra* note 21, pp. 272–275.

of habitat restoration measures or reintroduction actions when no sufficiently large habitat is available or the species has disappeared in its historical range. The necessity of proactive conservation actions aimed at the recovery of viable populations is undisputed in many imminent extinction scenarios. Recent research underscores that both reintroduction efforts and habitat restoration are key to avoid extinction of the Wild hamster in the westernmost parts of its habitat.[109] Evidently, the overarching goal of the Habitats Directive needs to be taken into consideration when interpreting the specific protection duties laid down in its core provisions.[110]

Furthermore, it can be maintained that such restoration rationale also results from the EU's international obligations as enshrined in the Bern Convention and the Convention on Biological Biodiversity, for instance.[111] Article 8, f) obliges State Parties to '(*r*)*ehabilitate* and *restore* degraded ecosystems and *promote* the recovery of threatened species, inter alia, through the development and implementation of plans or other management strategies' (emphasis added). In turn, Article 11(2)(a) of the Bern Convention explicitly urges Contracting Parties 'to encourage the *reintroduction* of native species of wild flora and fauna when this would contribute to the conservation of an endangered species, provided that a study is first made in the light of the experiences of other Contracting Parties to establish that such reintroduction would be effective and acceptable' (emphasis added). While the latter provision, which finds its counterpart in Article 22 of the Habitats Directive, does not lay down a mandatory duty to reintroduce native species, the recent experiences with the restocking and captive breeding of Common hamsters in Belgium and the Netherlands underscore its relevance in this regard.

Lastly, the recovery rationale underpinning the Bern Convention was also recognised by the Standing Committee to the Bern Convention when issuing a Draft European Action Plan for the conservation of the Common hamster in 2008. The restoration of perennial feed crops as key habitat is listed as one of the most relevant key actions in this respect.[112] In addition, the Draft Action Plan explicitly puts emphasis on conservation breeding and reintroduction as a possible *ex situ* measure, which was at the time already being implemented in the Netherlands, France and Germany in several zoos and universities.

3.2.2 The favourable conservation status as a benchmark: persisting implementation questions?

When establishing that the recovery rationale underpinning the Habitats Directive also covers Annex IV species such as the Common hamster, the relevance of the concept of 'favourable conservation status' is self-evident. The concept presents itself as a useful benchmark when drafting and implementing conservation plans. It is

[109] *La Haye, Verbist & Koelewijn*, *supra* note 42, pp. 159–166. See also more generally: *P.J. Seddon*, From reintroduction to assisted colonization: moving along the conservation translocation spectrum, Restoration Ecology, 2010, 18(6), pp. 796–802.

[110] This was also explicitly recognised by the European Commission in its 2007 Guidance. On page 28 the Commission states that: '(…) Article 12 has to be interpreted in the light of Article 1(i), which defines the favourable conservation status of a species. In addition, the measures taken by the EU Member States should be appropriate with a view to attaining the objective of maintaining or restoring the conservation status of a species'. See: Guidance on Strict Protection, *supra* note 50, p. 28.

[111] According to the steadfast case-law of the CJEU, provisions of secondary EU law must, in as far as possible, be interpreted in a manner that is consistent with the obligations of the European Union under international law. See amongst others: Case C-61/94, Commission v Germany [1996] ECR I-3989, para. 52; Case C-341/95, Bettati [1998] ECR I-4355, para. 20; Case C-286/02, Bellio F. lli [2004] ECR I-3465, para. 33.

[112] *Standing Committee, supra* note 31, pp. 23–24.

essentially a legal-ecological concept, which is explicitly defined by Article 1(i) of the Habitats Directive.[113] Pursuant to the latter provision, the conservation status of a species encompasses 'the sum of the influences acting on the species concerned that may affect the long-term distribution and abundance of its populations within the territory referred to in Article 2'. According to Article 1(i) of the Habitats Directive the conservation status of a species will be regarded as 'favourable' according to the Habitats Directive when population dynamics of the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitat, the natural range of the species is neither being reduced nor is likely to be reduced in the foreseeable future and there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis. However, as showcased by the recent scientific literature on this topic, many controversies are surrounding the exact interpretation of the concept of favourable conservation status.[114]

In its previous case-law, the CJEU repeatedly stressed the importance of the concept of favourable conservation status, for instance as a precondition to be observed when issuing derogations under Article 16(1) of the Habitats Directive.[115] Still, as of today, the CJEU has not yet handed down a clear-cut decision in which more substantial guidelines regarding the concrete interpretation of the crucial concept are offered. Even in the French hamster case, where it was explicitly recognised that the intensification of agriculture rendered the long-term survival of the species precarious, the CJEU did not extensively dwell on the exact implementation of the concept of favourable conservation status. The CJEU merely noted that 'there were no populations of the (European hamster) (…) which reached its minimum viable population threshold, which is estimated at 1 500 individuals spread over an area of contiguous suitable land of 600 hectares'.[116] In light of the subsequent analysis, it is interesting to note that the French recovery policy consisted in at least achieving three pockets of populations measuring around 1 500 individuals in the Alsace region.[117] This approach was based on recently conducted scientific work regarding minimum viable populations of the Common hamster[118] and is also applied in other EU Member States, such as Belgium.[119]

Over the past few years, though, the European Commission has issued several guidance documents in which the concept of favourable conservation status is further clarified to the EU Member States – explaining, among other things, how EU Member States should report the favourable conservation status in the context of the obligation to report under Article 17 of the Habitats Directive – which provide us with important clues in this respect.[120]

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[113] *Epstein, Lopez-Bao & Chapron, supra* note 70, p. 82. See also: *Schoukens*, *supra* note 97.

[114] See more extensively: *Epstein, Lopez-Bao & Chapron, supra* note 70, p. 81; *Y. Epstein*, Favourable Conservation Status for Species: Examining the Habitats Directive's Key Concept Through a Case Study of the Swedish Wolf, Journal of Environmental Law 2016, 28, p. 232; *Trouwborst, Boitani & Linnell*, *supra* note 104, pp. 55–56.

[115] See for instance: Commission v Finland [2007] ECR I-4713.

[116] Commission v France, *supra* note 1, para. 24.

[117] Opinion Advocate General Kokott, *supra* note 72, para. 72–75.

[118] See: *A. Kayser*, Contemplation about minimum viable population size in common hamsters, In: *I. Losinger* (ed.), The Common hamster Cricetus cricetus, L 1758. Hamster biology and ecology, policy and management of hamsters and their biotope. Proc. 12th Inter2. Hamsterworkgroup, October 16th-18th 2004, Strasbourg, Paris.

[119] *La Haye, Verbist & Koelewijn*, *supra* note 42, p. 165.

[120] *D. Evans & M. Arvela*, Assessment and Reporting under Article 17 of the Habitats Directive: Explanatory Notes, Guidelines for the Period 2007–2012, 2011 (further referred as '2011 FCS Guidelines').

While the exact ramifications of these concepts are further addressed below, one of the most seminal questions in this respect relates to the level or scale at which the favourable conservation status needs to be attained. The relevance of the geographical scale at which the conservation status of a species needs to be measured speaks for itself. The example of the Common hamster is again instructive in this respect. If the conservation status is to be achieved at European level or at supra-national or population level, this might entail that the European Commission is incapable of focussing its infringement proceedings on the limited size of the hamster populations of each individual EU Member State. Instead, the Commission should assess the viability of all remaining populations of the Common hamster in Belgium, the Netherlands and North Rhine-Westphalia combined. This might make sense ecologically speaking, since it has indeed been established that the three sub-populations are to be considered one cluster on the European scale.[121] And, to a certain extent, the latter more liberal interpretation appears to be in line with the wording of the Habitats Directive, which explicitly aims to 'contribute to ensuring biodiversity through the conservation of natural habitats and of wild fauna and flora in the European territory of the EU Member States to which the Treaty applies'.[122] On the downside, though, if such more liberal understanding of the notion of favourable conservation were accepted, a judicial review of national or regional conservation efforts would be rendered extremely difficult.[123] In the absence of strict judicial oversight, some EU Member States might be less inclined to step up their recovery efforts for declining populations still present on their territory. As indicated by Trouwborst et al., among others, the answer to the above-mentioned question differs depending on whether one approaches it within the context of reporting duties, habitat protection (Natura 2000) or, alternatively, within the context of strict species protection. As to the latter, the prevailing view is that the national level, when combined with a population approach, is the appropriate benchmark to be used in this perspective.[124] For instance, in the infringement proceedings that were launched against France, the Netherlands, Germany and Belgium regarding the inadequate protection of the Common hamster, the European Commission exclusively focused on the national population numbers and refused to take into account populations in neighbouring countries or regions.[125] These findings are implicitly underscored by the outcome of the French hamster case, where the EU judges at no point appeared willing to take into consideration other hamster populations in neighbouring countries such as Germany.[126]

In the more recent infringement proceedings against Sweden regarding the conservation of its wolf populations the European Commission also principally focused on whether the national conservation efforts allow the population to effectively contribute to the maintenance of the species at biogeographical level.[127] In line with the available literature on this topic, one can thus conclude that this rather restrictive approach is the correct one. Such a view excludes scenarios in which a EU Member State, which itself has undertaken insufficient measures to protect the Common hamster, might draw benefit from the

[121] *La Haye, Neuman & Koelewijn*, *supra* note 30, p. 311.
[122] See more extensively: *Schoukens*, *supra* note 97.
[123] *Trouwborst, Boitani & Linnell*, *supra* note 104, pp. 48–50.
[124] Ibid, p. 49; *Epstein*, *supra* note 114, pp. 242–243.
[125] See for instance: *European Commission*, Reasoned Opinion 13 July 2005, Infraction case P 2001/4984.
[126] Commission v France, *supra* note 1, para. 24.
[127] *European Commission*, Additional Reasoned Opinion in Infringement Proceeding 2010/5200 (Swedish) 19 June 2015, para. 44–51. See more extensively: *Epstein*, *supra* note 114, pp. 222–225.

more adequate conservation efforts made by a neighbouring EU Member State and ultimately would escape accountability.[128] Either way, since all the remaining hamster populations in Western-Europe are well below sustainable levels, the choice of benchmark would matter little in this context. Moreover, the view presented above does evidently not exclude intense forms of international cooperation when implementing a conservation policy for species whose populations straddle different countries and regions. This is already the case for the hamster populations in Belgium, the Netherlands and Germany (North Rhine-Westphalia), where cross-boundary restocking is carried out within the context of a Dutch Breeding Program.[129]

3.2.3 The exact implications of a recovery rationale: towards more scrutiny after the French hamster ruling?

The progressive understanding of the protection duties under Article 12(1) of the Habitats Directive, also encompassing robust recovery actions, appears to be buttressed by the outcome of the French hamster case before the CJEU. As indicated above, the European Commission accused France in this infringement proceeding of not having taken adequate and sufficient measures to secure the continued existence of the Common hamster in the Alsace. Indeed, while many of the above-mentioned rulings of the CJEU focused on cases of inadequate protection of strictly protected species, the recovery rationale of the French hamster case is undeniable.[130] The focus was more on repopulation and recovery than on simple protection. The formalistic counter-arguments of France, which heavily relied upon the literal wording of Article 12(1) of the Habitats Directive in order to submit that repopulation efforts were not needed beyond the habitats which were actually populated by Common hamsters, did not sway the EU judges. The European Commission argued that the designation of priority action areas (PAAs) and repopulation areas was in itself insufficient to bring about the much anticipated recovery of the protected rodent species. As to the PAAs, the European Commission submitted that the objective of 22% of crops favourable to the Common hamster had only been reached in one of the three existing PAAs, which moreover represented only 2% of all land favourable to the Common hamster. In view of the steep decline of the population of hamsters in Alsace between 2001 and 2007, the CJEU quickly concluded that the French hamster-friendly management measures were not adequate in view of its obligations under Article 12(1) of the Habitats Directive. And thus the ruling of the CJEU can rightly be quoted as a landmark decision in terms of validating a more recovery-based approach to the protection of endangered species.

4. Law in *inaction*: imminent extinction looming after a decade of half-hearted conservation efforts?

Having established the clear-cut recovery rationale underpinning the conservation duties of EU Member States under the Habitats Directive vis-à-vis the Common hamster, the focus now shifts to concrete national and regional implementation efforts in this respect, with a particular focus on the Flemish Region (Belgium). In this section, the regional conservation actions that were implemented in the Flemish Region between 2000–2015 are examined in view of the above-conducted analysis. The exact causes of their failure to halt the ongoing decline are further identified below. While these reasons are probably not substantially different from other deficient spe-

[128] See also: *Schoukens*, *supra* note 97.

[129] *La Haye, Verbist & Koelewijn*, *supra* note 42, pp. 158–166. See also more recently: *La Haye et al.*, *supra* note 46.

[130] Commission v France, *supra* note 1, para. 15. See also: *Schoukens*, supra note 74, pp. 352–354.

cies conservation strategies within the EU, they do help to better understand the subsequently voiced criticism concerning the modest ambition level of the more recent recovery actions in the Flemish Region.

4.1 The slow and inadequate transposition and enforcement of the EU Habitats Directive in the Flemish Region

In spite of the entry into force of the Habitats Directive in 1994, the policy response to the decline of the Common hamster in countries such as the Netherlands, Belgium (Flemish Region) and France has been notoriously slow, which has led some commentators to speak of 'extermination through inaction'.[131] Since the year 2000, though, several conservation schemes have been set up to support the isolated and fragmented populations in Belgium (Flemish Region), Germany, the Netherlands and France. In line with the scientific recommendations, actions mostly consist of habitat restoration measures and a combination of captive breeding and reintroduction efforts.[132] Notwithstanding the impressive sums of money invested in recovery actions and agri-environment schemes, these efforts brought no relief for the Common hamsters.[133] Only in the Netherlands, where the conditions of the agri-environment schemes were changed in light of the insight gained through adaptive managements, have recent reintroduction efforts modestly paid off.[134] However, the fragmented nature of the few remaining populations of the Common hamster, in combination with the increased risk of inbreeding and loss of genetic diversity, has an ever-more negative bearing on the success rate of the recent conservation efforts.[135]

The very fact that the European Commission has, as alluded to above, started infringement proceedings against Germany, the Netherlands, Belgium and France for their inadequate protection of the Common hamster between 2000–2007 aptly underscores the shortcomings in terms of effective hamster conservation policy.[136] Where the Common hamster had already been formally protected by law since the 1980s in the Flemish Region, this amounted to a mere paper protection. Until 2009, the rules on strict species protection applicable within the Flemish Region were included in an obsolete Royal Decree[137], dating back to the 1980s.[138] In sharp contrast to the Netherlands, where the notorious hamster ruling of the Dutch Council of State served as a catalyst for a stricter application of the species protection in a planning context, the outdated Flemish species protection rules were openly ignored throughout planning procedures for infrastructure programs liable to harm existing or potential habitats for Common hamsters in the Flemish Region, which caused further losses.[139] Throughout the 1990s,

131 *O' Brien*, *supra* note 6, p. 91.

132 *La Haye, Neumann & Koelewijn*, *supra* note 30, p. 311–312. See for an extensive analysis of the Flemish protection measures: *H. Schoukens*, Requiem voor de laatste wilde hamster in Vlaanderen: een juridische paradigmashift in the Antropoceen, Tijdschrift voor Omgevingsrecht en – beleid, 2016, 1, pp. 25–56.

133 *M.J.J. La Haye, G.J.D.M. Müskens, R.J.M. Van Kats, A.T. Kuiters & H. Siepel*, Agri-environmental schemes for the Common hamster (Cricetus cricetus). Why is the Dutch project successful?', Aspects of Applied Biology, 2010, p. 100.

134 Ibid.

135 *La Haye, Verbist & Koelewijn*, *supra* note 42, p. 159.

136 See on Belgium more extensively: *Schoukens*, *supra* note 132, pp. 25–29.

137 Royal Decree of 22 September 1980, Belgian Official Gazette 31 October 1980.

138 See more extensively: *H. Schoukens, A. Cliquet & P. De Smedt*, 'The implementation of the Habitats Directive in Belgium (Flanders): back to the Origin of Species?, Journal of European Environmental & Planning Law, 2007, 2, pp. 135–138.

139 See also: *H. Schoukens & P. De Smedt*, Soortenbeschermingsrecht: Toepassing bij ruimtelijke projecten, NieuwJuridischWeekblad, 2014, 295, pp. 50–71.

many farmers were moreover left unaware of the protected status of the rodent species and its repercussions on the cultivation practice.[140]

4.2 The first (unsuccessful) attempts to save the Common hamster in the Flemish Region

The ineffective enforcement of the passive protection rules notwithstanding, it would be incorrect to state that the Flemish government had not promulgated any substantial conservation action for the Common hamster prior to 2015. In 2001, a first conservation plan was drafted by an environmental NGO (*De Wielewaal*), which put forward a first list of measures aimed at halting the decline of the species.[141] It was inspired by the recent experiences with hamster conservation in neighbouring EU Member States and regions, covering restocking efforts, habitat restoration measures through hamster-friendly environmental contracts and the creation of strictly protected core areas. Yet the concrete implementation thereof faced additional complications and delays. At the time, the preservation of the rodent species was not deemed a political priority. No comprehensive regulatory framework existed which attached explicit legal effects to the proposed conservation and recovery measures. The fact that the population levels had fallen below sustainable levels considerably limited the success of the half-hearted conservation measures.

In the meantime, however, the European Commission initiated infringement proceedings against Belgium with respect to the inadequate protection of the Common hamster. A first letter of formal notice was send in 2004, in which the European Commission put forward that insufficient active protection measures had been implemented in light of the ongoing decline of the hamster populations.[142] Furthermore, in the Commission's opinion, the Flemish Region had failed to establish a system to monitor the incidental capture and killing of the animal species listed in Annex IV (a), as is explicitly required by Article 12(4) of the Habitats Directive.

While the Flemish Region declined to provide an adequate response to the initial request for information, the pressure by the European Commission fueled further actions to preserve the Common hamster, which ultimately resulted in the establishment of a first generation of hamster conservation measures.[143]

Four so-called 'hamster core areas' were designated, each of them covering the last remaining areas where Common hamsters were present. In these hamster core areas compensation payments to farmers for species protection measures were provided, which should help maintain hamster-favourable croplands. However, no additional protection measures were promulgated. A specific information campaign was launched in order to inform the farmers who cultivated land in the said hamster core areas of the presence of the rodent species. In addition, monitoring actions were initiated. Prior to that, a specific set of agri-environment contracts had been enacted to promote hamster-friendly crops in the selected hamster core areas.[144] Two types of contracts were offered, aimed at either growing lucerne or leaving parts of a cereal field unharvested. These voluntary contracts, with a five-year term, included generic conditions, such as the reduced use of pesticides, the absence of maize and additional

[140] Ibid.

[141] *De Wielewaal & Natuurvereniging v.z.w.*, Soortenbeschermingsplan Hamster, Onderzoek in opdracht van AMINAL, afdeling Natuur, 2001, 107p.

[142] *European Commission*, letter of formal notice to Belgium, 13 October 2004.

[143] *Schoukens*, *supra* note 132, pp. 25–29.

[144] *Stichting Limburgs Landschap vzw*, Promotie van beheerovereenkomsten specifiek voor de hamster bij landbouwers in de kernleefgebieden, Onderzoek in opdracht van AMINAL, Afdeling Natuur, 2004.

restrictions on deep ploughing.[145] Likewise, the decision was taken to actively participate in the Dutch breeding program, which had been set up in the year 2001.

Although well-intended, these actions did not succeed in swaying the European Commission. In its Reasoned Opinion of 13 July 2005, the latter reiterated its previous objections and held that the conservation measures were poorly coordinated and did not succeed in halting the ongoing decline.[146] In particular, it was underlined that the conservation measures relied too extensively on voluntary measures, such as agri-environment contracts and subsidies. It is worth keeping in mind this particular element for the subsequent analysis of the recently adopted Flemish hamster protection program.

Also, one should take into consideration the other obstacles faced by the first generation of restoration efforts. To some extent, the high costs tied to effective hamster recovery plans and the less emblematic status of the Common hamster caused further delays. The latter was starkly illustrated by the absence of a robust acquisition program aimed at the creation of strictly protected 'hamster reserves' in the remaining core areas that had been designated in 2004.[147] The 2005 Execution Plan merely aimed at further streamlining the actions laid down by the 2001 Hamster Conservation Plan. Most prominently, the acquisition of 15 hectares of hamster biotope per hamster core area had been put forward as a prominent *in situ*-protection measure for the selected hamster core areas. This acquisition program has never been effectively implemented on the ground. However, several hamster-friendly contracts were concluded with some farmers.

In 2007 and 2008, though, 120 hamsters from the Dutch captive breeding program were reintroduced in two of the four established hamster core areas (*Leuven-Bertem* and *Wildooie-Tongeren*).[148] While the reintroductions succeeded in temporarily boosting the local hamster populations[149], they ultimately proved unsuccessful, as was illustrated by the disappearance of the Common hamster in all but one of the selected hamster core areas.[150] The absence of any long-term conservation actions in the field, impeded the species from establishing itself in a more sustainable manner.

5. The 2015 Species Protection Program for the Common hamster: genuine or half-hearted recovery attempts?

With the adoption of the 2009 Species Protection Regulation[151] a new impetus was given to species conservation within the Flemish Region. The latter set of rules sought to adequately implemented the strict protection scheme set out by Articles 12–16 of the Habitats Directive in Flemish nature conservation legislation. Moreover, the Species Protection Regulation provided an explicit legal framework for the adoption of species conservation measures that went beyond mere preventative protection measures.[152] Amongst others, the 'species protection program' was put forward as new instrument to implement recovery measures

[145] Ministerial Decision of 14 June 2005 to modify the Ministerial Decision of 18 December 2015, Belgian Official Gazette 15 July 2005.
[146] *European Commission*, Reasoned Opinion of 13 July 2005, case no. 2001/4984.
[147] *Afdeling Natuur*, Hamster Uitvoeringsplan, 2005.
[148] *La Haye, Verbist & Koelewijn*, *supra* note 42, p. 163.
[149] Ibid, p. 166.
[150] *La Haye et al.*, *supra* note 46.
[151] Decision of 15 May 2009 regarding the protection and conservation of species, Belgian Official Gazette 1 September 2009 (further referred to as 'Flemish Species Protection Regulation').
[152] Article 24 of the Species Regulation explicitly stipulates that the Minister competent for Nature Conservation *can* enact additional active species conservation actions for species that are threatened or endangered.

for endangered species, such as the Common hamster. Article 1, 11° of the Species Protection Regulation stipulates that a 'species protection program is a program of measures which aims to achieve the favourable conservation status of one or more species in the area to which the program is applicable'. The procedure to draft a species protection program can be initiated by either private individuals, nature conservation organisations or governmental bodies.[153] Yet ultimately all species protection programs need to be adopted by the Minister competent for Nature Conservation.

If necessary, a species protection program can contain additional protection duties, which can supplement the generic protection rules implementing Articles 12–16 of the Habitats Directive.[154] A species protection program can have a duration of maximum five years, which can be prolonged by the Minister competent for Nature Conservation, if deemed appropriate.[155]

In spite of the obvious sense of urgency, the Flemish government waited a staggering six (!) years to come forward with a tailor-made species protection program for the protection and recovery of the Common hamster, whose populations had further crumbled during the past decade. This delay can partly be explained by the absence of any additional pressure from the European Commission, which ultimately deemed it unnecessary to bring Belgium before the CJEU for its failing hamster conservation policy, as it had done with France. One can assume that the entry into force of the Species Protection Regulation in 2009 was used as leverage by the Flemish government in order to convince the European Commission of its good intentions. Moreover, in order to further implement the species protection programs, the Flemish government first needed to publish the regional conservation objectives. This was only done by a decision of the Flemish government of 23 July 2010.[156]

Yet the additional delays only helped to increase the scope of the Flemish recovery challenge regarding the Common hamster. Finally, the Species Protection Program for the Common Hamster was adopted by the Flemish Minister competent for Nature Conservation on 21 December 2015 and published in the Belgian Official Gazette on 20 January 2016.[157] The adoption of the program coincided with the entry into force of two other protection programs for endangered farmland species (the Montagu's harrier (*Circus pygargus*) and the Corn crake (*Crex crex*)). The territorial scope of the Flemish hamster protection program moreover partly overlaps that of the protection program for the Montagu's harrier.

In line with the previous hamster conservation plans in neighbouring countries, the Flemish hamster protection program puts forward an area-oriented approach in order to safeguard the survival of the Common hamster in the Flemish Region. In total, 635,000 EUR of public funds have been made available to invest in proactive conservation measures for the Common hamster. A set of progressive habitat restoration measures and reintroduction efforts is put forward in order to safeguard the last remaining hamster population in the zone *Wildooie-Tongeren*. As a follow-up to the 2015–2020 species protection program, the conservation of a second 'hamster zone' is is anounced for 2020. By that year, ad-

[153] Article 27 of the Flemish Species Protection Regulation.

[154] Article 25 (2) of the Flemish Species Protection Regulation.

[155] Article 27(3) of the Flemish Species Protection Regulation.

[156] Decision of the Flemish government of 23 July 2010 on the approval of the regional conservation objectives for protected species and habitats, Belgian Official Gazette 5 November 2010.

[157] See *supra* note 28.

ditional conservation actions are expected to be implemented in the area *Bertem-Leuven*, one of the earlier established hamster core areas where hamsters have been present until recently and where reintroduction actions had been carried out throughout the past decade.

At the time of its publication, the competent Minister for Nature Conservation hailed the Flemish hamster protection program as a remarkable example of proactive nature management because of the strong reliance on habitat restoration and species reintroduction.[158] In turn, the nature conservation organisations welcomed the program as a first step towards compliance with the conservation duties incumbent upon the Flemish Region.[159] In light of the ongoing situation of non-compliance regarding the Common hamster, the important question arises whether the concerted measures are really effective enough to remedy the ongoing implementation deficit. Below it is argued that the Flemish hamster protection program has four potential shortcomings in view of the restoration imperative underpinning the Habitats Directive.

5.1 How many Common hamsters are needed in the Flemish Region?

When drafting the Flemish hamster protection program, the competent authorities first needed to ponder on what specific baseline to use. At first glance, several, often conflicting approaches appear to be valid in this respect. For some, traditional conservation measures are to be limited to safeguarding the survival of the few remaining populations in the Flemish Region might suffice. In view of the applicable international, EU and regional nature conservation rules, though, it was soon obvious that the ultimate goal of the program ought to be the achievement of the so-called 'favourable conservation status'. Along those lines, EU Member States cannot limit themselves to maintaining an endangered species at suboptimal levels.

At the time of the establishment of the *regional* conservation objectives for protected species in 2010, the Flemish government had already acknowledged that the conservation status of the Common hamster was to be assessed as 'unfavourable' in the Flemish Region. However, whereas it was explicitly acknowledged that the hamster needed additional 20–25 hectares of landscape elements such as field edges and fallow lands, no additional quantified goals in terms of populations and range were set.[160] In the accompanying scientific reports it was noted that in order to achieve a favourable conservation status for the Common hamster, more than 500 burrows (individuals) are needed for each individual 'hamster zone'. This would correspond to at least 125 hectares of hamster-friendly habitats.[161] In the Flemish hamster protection program itself, these conservation objectives are reinforced and further determined. As such, the Flemish hamster protection program 2015–2020 prioritized the achievement of a mere 125 hectares of hamster-friendly land in one hamster zone within a time frame of 5 years.

The population and habitat restoration targets included in the Flemish hamster protection program are said to be based upon the best

[158] See: Vlaanderen gaat hamsters uitzetten, De Standaard, 11 January 2016, http://www.standaard.be/cnt/dmf20160111_02060441 (Accessed 10 February 2017); 635.000 euro om laatste wilde hamster te reden, Belang van Limburg, 9 augustus 2016, http://www.hbvl.be/cnt/dmf20160808_02417248/vrijwilligers-zoeken-hamster-burchten (Accessed 10 February 2017).

[159] See: Hamsters uitzetten als redmiddel voor povere populatie, VILT, 11 January 2016, http://www.vilt.be/hamsters-uitzetten-als-redmiddel-voor-povere-populatie (Accessed 10 February 2017).

[160] See *supra* note 156.

[161] Flemish hamster protection program, *supra* note 28, pp. 27–28.

available science at hand. Yet they remain challengeable in view of the comprehensive recovery rationale that is underpinning the Habitats Directive. For one, the target of restoring one core of 500 individuals by 2020 appears rather low and may arguably be incompatible with the above-presented restoration imperative, especially when compared with the more progressive targets set by other hamster conservation plans in neighbouring regions and countries. As indicated above, the French hamster conservation measures discussed above aimed to establish three core populations of 1 500 individuals each, which is also reinforced in the more recent conservation plans[162]. Equally, Dutch recovery efforts indicate that a minimum of 300 hectares is recommendable when implementing hamster-friendly management.[163] However, none of such more ambitious targets are to be found in the Flemish hamster protection program for 2020.

The question now arises whether the lack of such more progressive population targets is problematic from a legal perspective. For now, it is widely accepted that conservation plans for Annex IV species need to be based upon the best available scientific knowledge in the field.[164] As such, the Flemish hamster protection program is based on sound science, taking into account all relevant literature on the existing threats to the Common hamsters in Western Europe. It can thus not be dismissed as a clear-cut example of capricious decision-making in environmental matters. Yet the relatively reluctant population and restoration targets might still stand at odds with the seminal concept of 'favourable conservation status', which is underpinning the protection rules included in Article 12(1) of the Habitats Directive. This touches on the more important question as to what criteria are suitable and appropriate when determining the favourable conservation status of a certain species and to ensure its long-term survival. In itself, the concept of favourable conservation status, which has been alluded to above, is primarily a legal one. However, the exact interpretation of many of the multiple terms included therein, such as the critical notion of 'viability', is contingent on the best ecological research available as regards population management in the context of endangered species.[165] This raises questions as to what standards are to be applied in order to assess a EU Member State's compliance with Articles 12–16 of the Habitats Directive.

When establishing population targets for endangered species the concept of 'minimum viable population' (MVP) has become a popular tool to determine the favourable conservation status for a species.[166] As already stated above, the CJEU indirectly used this concept as a benchmark to assess the viability of the remaining hamster populations in the French Alsace. In 1981, Shaf-

[162] *Ministère de l'Écologie, du Développement durable et de l'Energie*, Plan national d'actions en faveur du hamster commun Cricetus cricetus 2012–2016, 2012, p. 51.

[163] *Provincie Limburg*, Natuurbeheerplan 2017, file:///C:/Users/Hendrik.Schoukens/Downloads/Natuurbeheerplan_Limburg_2017%20(2).pdf (Accessed 10 February 2017), 2016, Maastricht, pp. 19–22. See also: *European Economic Interest Group et al.*, Managing farmland in Natura 2000, Case Studies, 2010, http://ec.europa.eu/environment/nature/natura2000/management/docs/Farming%20for%20Natura%202000-Annex%20E-Case%20studies.pdf (Accessed 10 February 2017).

[164] See, by analogy in the context of Article 6(3) of the Habitats Directive: Case C-127/02, Landelijke Vereniging tot Behoud van de Waddenzee en Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij [2004] ECR I-7405, para. 59 and 61.

[165] See more extensively: *Epstein*, *supra* note 114, pp. 229–230.

[166] In the 2008 LCIE Guidelines for Population Management Plans for Large Carnivores it is suggested that MVP should be used in order to determine the 'favourable reference population' of a species. See: *Linnell et al.*, *supra* note 103, pp. 19–20. See more extensively: *Schoukens*, *supra* note 97; *Trouwborst, Boitani & Linnell*, *supra* note 104, pp. 53–55.

fer defined the concept of MVP as 'the smallest isolated population having a 99% chance of remaining existent for 1 000 years despite the foreseeable effects of demographic, environmental and genetic stochasticity, and natural catastrophes'.[167] There is a plethora of research on the methods to estimate MVPs. Even so, it is generally accepted that MVP can be determined in numerous ways. One of the most prominent methods in this respect, however, are population viability analyses (PVA), which use demographic and environmental information to project future population dynamics.[168] Another method to estimate MVPs consists in determining the minimum area that a population needs to inhabit in order to escape environmental catastrophes.

In recent years, though, a relatively great amount of attention has been paid to the evolutionary potential of a population (evolutionary MVP), being the population size required at equilibrium to balance the loss of quantitative genetic variation with the gain from mutation.[169] In view of the sharp decline of the genetic health of the remaining populations of hamsters in Western Europe, such considerations obviously need to be taken into account when setting population targets. Recent studies indicate that using well defined breeding lines combined with a systematic reintroduction scheme is key to safeguard the genetic viability of the few remaining hamster populations in Western Europe.[170] According to Traill et al., genetically viable populations are 'those large enough to avoid inbreeding depression, prevent the accumulation of deleterious mutations, and maintain evolutionary potential'.[171] In this respect, the concept of genetically effective population (*Ne*) is prevalent, which is a measure of a population's genetic behaviour compared to that of an ideal population. When it comes to the concept of *Ne*, there is a wide-spread agreement amongst scientists that for a population to be genetically viable, it must at least consist of 500 effective individuals, *i.e.* individuals who contribute to the genetic diversity of the population's offspring. As the effective population size is normally significantly less than the total population size, it is generally accepted that generally a total population threshold of 5 000 individuals will be required to ensure genetic viability.[172]

Arguably, the exact determination of the MVP, be it through the evolutionary potential of a population or not, is the subject of intense debate in literature.[173] And while some authors posit that *Ne* of 500 should merely be a long-term aspirational goal for maintaining healthy populations[174], the majority of scientists now agree that MVPs should consist of thousands of individuals to ensure long-term persistent populations.[175] For instance, Traill et al. noted that '(c)urrent evidence from integrated work on population dynamics shows that setting conservation thresholds at a few hundred individuals only is a subjective and non-scientific decision, not an evidence-based biological one which

[167] *Shaffer*, *supra* note 10.
[168] *L.W. Traill, B.W. Brook, R.R. Frankham & C.J.A. Bradshaw*, Pragmatic population viability targets in a rapidly changing world, Biological Conservation, 2010, 143, p. 29.
[169] See amongst others: *I.R. Franklin & R. Frankham*, How large must populations be to retain evolutionary potential?, Animal Conservation, 1998, 1, pp. 69–73.
[170] *La Haye et al.*, *supra* note 46.
[171] *Traill et al.*, *supra* note 168, p. 30.
[172] However, Franklin and Frankham seem to submit that higher effective mutations rates might indicate that 500 to 1,000 individuals are sufficient to retain the evolutionary potential. See: *Franklin & Frankham*, *supra* note 169, pp. 69–70.
[173] See for instance: *J.M. Reed & E.D. McCoy*, Relation of Minimum Viable Population Size to Biology, Time Frame, and Objective, Conservation Biology, 2014, 28, pp. 867–870.
[174] *I.G. Jamieson & F.W. Allendorf*, How does the 50/500 rule apply to MVPs?, Trends in Ecology and Evolution, 2012, 27, 583.
[175] *Traill et al.*, *supra* note 168, p. 33; *Reed & McCoy*, *supra* note 173, p. 867.

properly accounts for the synergistic impacts of deterministic threats'[176]. Some scientists even suggest that an effective population of 5 000 (instead of 500) individuals is needed to ensure its long-term survival.[177]

Remarkably so, the Flemish Region has been cited in a 2015 Review of the operationalization of the concept of 'favourable conservation status' as one of the few regions within the EU that use 5 000 individuals as a threshold value when assessing the conservation status of a protected species.[178] As highlighted by the foregoing analysis, such progressive approach is not to be found in the hamster protection program. Perhaps it is revelatory that in the Flemish hamster protection program itself no explicit reference can be found to this more progressive stance. Either way, in light of the current predicament of the rodent species, the above-presented body of science should have urged the Flemish government to implement more ambitious recovery goals, also in the short term. An additional argument to advocate higher population targets for species that themselves on the brink of extinction, can be found in the above-mentioned 2011 FCS Guidelines, promulgated by the European Commission. Although non-binding, they put forward the concept of 'favourable reference population' (FRP) as a tool to be used in order to further define the favourable conservation status of protected species, such as the Common hamster. Interestingly enough, the FCS Guidelines underscore that, whereas the concept of FRP refers to a similar minimum viability threshold as the MVP, the former should be set at a higher level than the MVP.[179] To be more precise, the Guidelines state that '(e)stimates of MVP will, by definition, be lower than FRP'.[180] In addition, it is highlighted that the genetics of a species are also a determining factor when setting viable population targets.[181] Along with Epstein et al., one might infer from the 2011 FCS Guidelines, in particular when read together with the restoration rationale underpinning the Habitats Directive, that EU Member States need to direct their conservation efforts for endangered Annex IV species beyond merely preventing extinction in the short term.[182]

At the same time, however, it must be acknowledged that is was never the Habitats Directive's primary objective to increase the populations of endangered species to their historical levels, way before the entry into force of the Habitats Directive.[183] This is common sense since, if one applied a similar approach when setting the favourable range, this would imply that the entire territory of a EU Member State, even when it has fully transformed into a human-dominated landscape, is eligible as a potential habitat. In order to attain the favourable conservation status it is not necessary to repopulate all of the historical range of a said species.[184] Hence, the Flemish Region cannot be obliged, at least not within the framework of the Habitats Directive, to bring back Common hamsters to sites where the species has disappeared for more than a century. Even so, the 2011 FCS Guidelines rightfully highlight that, when establishing favourable reference values, such should 'at least (be) of the

[176] Ibid, p. 32. See also: *B.W. Brook, N.S. Sodhi & C.J.A. Brashaw*, Synergies among extinction drivers under global change, 2008, Trends in Ecology and Evolution, 23, pp. 453–460.
[177] Lande cited in *Epstein*, *supra* note 114, p. 233, fn. 80.
[178] *A.J. McConville & G.M. Tucker*, Review of the Favourable Conservation Status and Birds Directive Article 2 interpretation within the European Union, Natural England Commissioned Reports, p. 23.
[179] 2011 FCS Guidelines, *supra* note 120, p. 18; *Epstein*, *supra* note 114, pp. 229–231.
[180] Ibid, p. 18.
[181] Ibid.
[182] *Epstein*, *supra* note 114, p. 237–238; *Schoukens*, *supra* note 74, pp. 352–353.
[183] *Epstein, Lopez-Bao & Chapron, supra* note 70, p. 85.
[184] 2011 FCS Guidelines, *supra* note 120, pp. 16–17.

size when the Habitats Directive entered into force'.[185] If these values do not correspond to the favourable conservation status, higher population or habitat reference targets might thus still be required.[186]

Some authors have recently put forward the use of the notion 'carrying capacity', which would take into account the ecological role of a species in the ecosystem and the number of individuals that can be supported by a habitat when determining concrete population numbers.[187] Evidently, such alternative approach could also be used to underpin the role of the Common hamster as a flagship species for the preservation of farmland nature in Western Europe and, ultimately, lead to more ambitious restoration programs. Others have dismissed the latter approach as an unworkable rule in a human-dominated landscape, especially in cases where species such as the Common hamster have become increasingly dependent on human activities.[188] While the carrying capacity approach can certainly give rise to certain ambiguities, its application might indeed lead to a more comprehensive underpinning of future repopulation scenarios for a key-stone species, such as the Common hamster.

Be that as it may, the relatively modest population targets put forward by the Flemish hamster protection program are to be denounced as insufficient to ensure that the Common hamster 'remains a viable component of its habitat', as is required by Article 1(i) of the Habitats Directive. They offer no workable and enduring solution for the survival of the species. To some extent, this has been acknowledged by the Flemish government in the text of the programme. There, it was indeed explicitly recognized that the primary objective of the 2015–2020 program is to stop the ongoing decline and stave off the imminent extinction of the Common hamster. Yet the population and restoration targets set for 2020 seem to underestimate the dire situation of the rodent species. Instead of aiming at re-establishing sufficiently large populations of Common hamsters of a thousand or more individuals within the Flemish Region, the short-term recovery efforts are basically limited to re-establishing populations of several hundreds of individuals, which does not guarantee long-term survival.

Admittedly, the lack of more progressive population targets might be repudiated in view of the current predicament of the Common hamster. However, at the same time a more pragmatic recovery approach is laudable in itself, especially since it will require active breeding and restocking measures and can also be framed as a more realistic solution to the Common hamster's plight. Indeed, one might submit that re-establishing robust populations of thousands of individuals in the short run is neither feasible nor realistic. Even so, the concerted population targets in the Flemish Region seem to fall short in light of the definition of 'favourable conservation status', as included in the Habitats Directive. Given the fact that, as noted above, the MVP for the Common hamster is believed to be 1 500 individuals and taking stock of the existing decline in genetic diversity amongst Common hamsters in Western Europe[189], the short-term Flemish conservation efforts might be inadvertedly 'managing for extinction'. If anything, the loss of gene diversity that has been observed in the remaining populations in the westernmost part of the Common hamster's range[190] should have urged

[185] Ibid, p. 17.
[186] See for more applications on national level: *McConville & Tucker*, *supra* note 178, pp. 22–26.
[187] *Epstein, Lopez-Bao & Chapron, supra* note 70, p. 89.
[188] *Trouwborst, Boitani & Linnell*, *supra* note 104, p. 55.
[189] See *supra* note 118.
[190] See also more generally: *La Haye, Neumann & Koelewijn*, *supra* note 30, pp. 319–321.

the Flemish Government to come up with a more ambitious conservation plan, aimed at establishing different pockets of connected populations of a thousand or more Common hamsters by 2020. Also, the application of the precautionary principle, which has featured so prominently in the case-law of the CJEU, ought have led to a more progressively framed recovery approach.[191]

Having said all this, though, it is important to recognize that the CJEU has yet to shed light on what it exactly means for a species to be a 'viable component of its natural habitat', as is required by the definition of a 'favourable conservation status' for a species. As Trouwborst et al. have noted, 'legal uncertainty persists as to whether one should opt for the carrying capacity approach rather than using extinction as a benchmark'.[192] The above notwithstanding, one could still submit that, legally speaking, EU Member States such as Belgium (the Flemish Region) were minimally required to accord strict protection to the Common hamster from the date of the entry into force of the Habitats Directive, being May 1994. If not, EU Member States that openly declined to adequately enforce the protection duties contained in Articles 12–16 of the Habitats Directive are to draw advantages from their own non-compliance.[193] According to this more legalist reading of Article 12 of the Habitats Directive, one should at least also approach the recent Flemish recovery efforts as a remediation of past non-compliance with the above-mentioned protection rules. And also in this context, the actions seem to fall short of what is legally required.

The latter analysis is buttressed by the settled case-law of the CJEU that underlined that EU Member States are principally obliged to take all general or particular measures for remedying the failure to apply Union rules regarding environmental protection.[194] While EU law does not as such preclude national legislation which, in certain cases, permits the regularisation of actions which are unlawful in the light of EU law, this should remain exceptional[195] and should not be able to put into jeopardy the objective of a high level of protection of the environment, as included in Article 191 TFEU[196]. In the specific context of the Habitats Directive, reference is to be made to the recent case-law of the CJEU, in which it has already been underlined that EU Member States cannot be rewarded for their failure to adhere to their obligations regarding the designation of Natura 2000 sites.[197] And whereas the European Commission did not base its claims in the French hamster case on France's failure to bring back the species to its 1994 levels, which were probably considerably higher than the MVP of 1 500 individuals, Advocate General Kokott acknowledged that such a claim would not be off-limits within the context of the Habitats Directive.[198] Moreover, in a 2014 ruling pertaining to the conditions under which Natura 2000 sites could be declassified, the CJEU highlighted that EU Member States are in principle obliged to recover degraded protected sites, especially when the degradation is the result of an earlier non-observance of the conservation duties linked thereto.[199] Im-

[191] *Trouwborst*, *Boitan*i & *Linnell*, *supra* note 104, pp. 55–56.
[192] Ibid, p. 58.
[193] See also: *Schoukens*, *supra* note 97.

[194] Case C- 348/15, Stadt Wiener Neustadt [2016] ECLI:EU:C:2016:882, paras. 48–47; Case C-201/02, Wells [2004] ECR I- I-00723, para. 68.
[195] See to that effect: Case C-215/06, Commission v Ireland [2008] ECR I-04911, para. 57 and 61.
[196] See to that effect: Case C-379/15, Association France Nature Environnement [2016] ECLI:EU:C:2016:603, paras. 35; Case C-41/11, Inter-environnement Wallonie [2012] ECLI:EU:C:2012:103, para. 55.
[197] Case C-347/98, Commission v France [2000] ECR I-10799, para. 50.
[198] Opinion Advocate General Kokott, *supra* note 72, par. 51.
[199] Case C-301/12, Cascina Tre Pini s.s. [2014] ECLI: EU:C:2014:214, para. 50.

portantly, however, the Flemish hamster protection program is not concerned with repopulating the reference habitat which was still occupied by Common hamsters at the time of the entry into force for the Flemish Region (1994). No reference whatsoever is made to the reference date of 1994. Equally, the conservation measures put forward in the Flemish hamster protection program are not explicitly linked to the obvious non-compliance of the past decades.

Admittedly, one might submit that it remains difficult to define the exact size of the reference population and habitat in 1994. However, the available data from the past decades clearly indicate that there were at least four areas left at the end of the 1990s where Common hamsters were still present. Arguably focussing on past losses might be deemed irrelevant if newly established conservation plans focused on the short-term achievement of the favourable conservation status. Yet in the absence of such clear-cut ambitions, the applicable conservation plans should at least enable the government to remedy the past, 'illegal' losses. Such 'corrective' approach is to pave the way for more far-reaching recovery schemes, in terms of both population numbers and reference habitat.

By contrast, the Flemish hamster protection program merely focuses on one of the four areas that were inhabited at the entry into force of the Habitats Directive (*Wildooie-Tongeren*). It concisely hints at the conservation of another, additional hamster zone beyond 2020. In view of the long delays that were associated with the adoption of the first hamster protection program and the additional time it will take to effectively implement the proposed actions, it remains highly uncertain whether this follow-up program will be operational in time. It can therefore be submitted that the applicable time-frame as well as the refusal to include more vast repopulation areas unnecessarily puts into jeopardy the further survival of the species altogether in the Flemish Region and therefore is incompatible with Article 12(1) of the Habitats Directive.

5.2 The substantive scope of the measures: beyond mere protective measures?

The exact population and recovery goals underpinning the Flemish hamster protection program remain subject to further criticism. However, the toolbox of conservation measures put forward to prevent the remaining hamster populations from disappearing appears impressive at first sight. It relies both upon habitat restoration measures and on active restocking efforts. In other words, the concerted actions ostensibly go beyond what is traditionally viewed as 'protective measures'. At first glance, this might be surprising since, as alluded to above, according to the European Commission's 2007 Guidance on Strict Species Protection, proactive habitat restoration or reintroduction efforts are not required within the framework of Articles 12–16 of the Habitats Directive.[200] The Commission explicitly underlined that 'if proactive biotope restoration is needed for a butterfly species listed only in Annex IV(a) because its habitat has nearly disappeared and only a larger habitat would ensure long-term survival, such a measure would not be covered by Article 12'.[201] It merits little consideration to understand that, under such an interpretation, the chances of survival of highly endangered species would be uncertain. As argued above, Article 12(1) of the Habitats Directive would indeed lose all its effect, especially in a situation of continuing non-compliance, if it did not also encompass recovery actions. Moreover, in times of ecological change and degradation, it

[200] Guidance on Strict Species Protection, *supr*a note 50, p. 26. See more extensively: *Schoukens*, *supra* note 74, pp. 351–354.
[201] Guidance on Strict Species Protection, *supr*a note 50, p. 26.

is widely accepted that more proactive conservation actions, such as reintroduction aimed at re-establishing a viable population of a focal species within its historic range, are crucial to avoid further losses.[202]

It is true that the ambiguity that emerged from the 2007 Guidance on Strict Species Protection was further reinforced by the analysis included in Advocate General Kokott's Opinion in the French hamster case. For instance, in paragraph 50 she held that '(…) measures in areas where there are no hamster burrows are not necessary. Measures of that kind are certainly sensible for the future repopulation of those habitats by the Common hamster and, therefore, presumably necessary for the restoration of a favourable conservation status for the species in Alsace generally. However, the measures required by Article 12(1)(d) relate only to the breeding sites and resting places of existing populations'. The Advocate General further stated that France is not required to implement stricter agricultural measures throughout the Common hamster's historical range.[203] However, the simple fact that the CJEU has chosen to explicitly assess the adequacy of the recovery measures seems to underline that restoration measures are to be deemed mandatory in a context of imminent extinction.[204] In view of the final outcome of the French hamster case, the Flemish Government was right to contemplate reintroduction efforts in the context of its future conservation plans. Regardless of her ambivalent stance as to habitat restoration measures within the framework of Article 12(1)(d) of the Habitats Directive, Advocate General Kokott also underlined in her Opinion in the French hamster case that '(…) if, as in the present case, the populations of the species are so small that they may die out because of natural fluctuations in numbers, an effective system of protection must aim to achieve a sufficient increase in stocks', thereby underlining the recovery imperative of the Habitats Directive.[205]

Instead of opting for a mere conservative-textual approach of Article 12(1) of the Habitats Directive when drafting its conservation plans, the Flemish government clearly chose to go beyond mere prevention and aim at a combination of captive breeding/restocking and habitat restoration measures. This was indeed the only viable option to do, both from an ecological and from a legal point of view.[206] Research indicates that, at present, the Common hamster is not capable of 'maintaining itself', as required by Article 1(i) of the Habitats Directive, and thus robust recovery actions are required to overcome this bottleneck.[207]

As such, the restoration of 125 hectares of hamster-friendly habitats in one hamster core area (*Wildooie-Tongeren*) constitutes one of the main pillars of the Flemish hamster protection program. In order to further guarantee the adequacy of the hamster habitats, the Flemish hamster protection program also explicitly lays down a myriad habitat quality requirements that need to be observed when implementing the restoration measures. This means, among other things, that the hamster-friendly fields need to be closely connected in order to avoid further fragmentation. In addition, it is to be ensured that cereals are cultivated on 50% of the fields. No early harvest is allowed on the lands included in the habitat management plans.[208] However,

[202] *IUCN/Species Survival Commission, supra* note 27, p. 1.
[203] Opinion Advocate General Kokott, *supra* note 72, para. 69.
[204] *Schoukens*, *supra* note 74, pp. 357–359.
[205] Opinion Advocate General Kokott, *supra* note 72, para. 84.
[206] See for instance: *La Haye, Verbist & Koelewijn*, *supra* note 42, pp. 163–166; *O' Brien*, *supra* note 6, pp. 92–93.
[207] Ibid.
[208] Flemish hamster protection program, *supra* note 28, pp. 28–29.

while the presence of a sufficient surface area of hamster-friendly habitat is deemed vital for any recovery effort to succeed, the relatively low population numbers render it very unlikely that a full natural recovery of the species will allow the Common hamster to reach favourable conservation status. Therefore, the Flemish hamster protection program explicitly envisages supplementation and reintroduction efforts, aimed at the further recovery of the last remaining population of Common hamsters in *Wildooie-Tongeren*. Implementing earlier scientific findings,[209] the reintroduction efforts will only be made when 50 hectares of hamster-friendly habitats have been restored.[210] On a yearly basis, 80 hamsters will be have to be released in the hamster zone in *Wildooie-Tongeren*. These reintroductions have to be maintained during three consecutive years. In order to underpin the reintroduction efforts, hamsters will be taken from the existing Dutch breeding program or, as the case may be, a Flemish breeding program will have to be set up.[211]

It must be applauded that the Flemish hamster protection program requires the reintroduction measures to take into consideration the objective of restoring the genetic health of the hamster populations, which have suffered a strong decline in the past decades.[212] The Flemish hamster protection program also requires continuous monitoring in order to assess the effectiveness of the recovery measures and the suitability of the hamster habitats.[213] The position of the hamster coordinator, who is to further streamline the communication with the relevant stakeholders and oversee the concrete implementation of all measures included in the protection program, is crucial for achieving a more collaborative approach. The coordinator is to ensure the continuous monitoring of the recovery measures put forward by the Flemish hamster protection program.[214] Earlier Dutch practices had already underlined the importance of the position of a hamster coordinator for the effectiveness of the conservation efforts.[215]

In my opinion, all the above-mentioned measures, while far-reaching at first sight, are nonetheless mandatory under Article 12(1) of the Habitats Directive. Most interestingly, they are also in line with the 2013 IUCN *Guidelines for Reintroductions and Other Conservation Translocations*. For instance, the very fact that prior to the reintroduction a sufficiently large surface of hamster-friendly habitats is to be restored pursuant to the Flemish hamster protection program further implements the recommendations as to the feasibility and design of reintroduction efforts. In the IUCN Guidelines, it is further stressed that 'it is essential to evaluate the current suitability of habitat in any proposed destination area'.[216] They equally underscore the importance of post-release monitoring and continuing (adaptive) management.[217] Likewise, the IUCN Guidelines underline that 'while the ultimate aim of any conservation translocation is to secure a conservation benefit, this benefit may need long-term or permanent management support to persist'.[218] Even so, in view of modest habitat restoration targets that are included in the Flemish hamster protection program, one might still question whether the 'release area' is

[209] *Neumann et al., supra* note 39, p. 191.
[210] Flemish hamster protection program, *supra* note 28, p. 29.
[211] Ibid, p. 51.
[212] *La Haye et al., supra* note 46.
[213] Flemish hamster protection program, *supra* note 28, pp. 37–38.
[214] Ibid, p. 45.
[215] *European Economic Interest Group et al., supra* note 163, pp. 84–85.
[216] *IUCN/Species Survival Commission, supra note* 27, p. 13.
[217] Ibid, pp. 27–28.
[218] Ibid.

large enough to support the stated population targets, as is also recommended by the IUCN Guidelines.[219]

In spite of the underperformance of voluntary protection scheme in preserving Common hamsters throughout the past decades, agri-environment schemes are still put forward as the primary tool to further implement the habitat restoration measures in the Flemish hamster protection program. In order to upgrade the effectiveness of the voluntary schemes, a two-tiered approach is set out in the Flemish hamster protection program. In a first phase, the existing agri-environment schemes will be reviewed in order to allow a swift implementation of the hamster protection program during the first three years. In a second stage, new innovative management strategies are to be set up in order to further implement the protection program. This next generation of contracts can be inspired by good practices from abroad, such as the new generation of Dutch agri-environment contracts that offered the enrolled farmers the flexibility to rotate the hamster-friendly measures.[220]

Arguably, the array of recovery measures envisaged for the Common hamster is unprecedented within the context of Flemish nature conservation policy. By some measures, the Flemish hamster protection program indeed represents the most ambitious recovery effort ever contemplated within the Flemish Region. However, the exclusive focus on translocation and reintroduction efforts should not hide the immense challenges that lie ahead. Given the past failures in implementing attractive agri-environment schemes for farmers, the rather lenient time scheme included in the Flemish hamster protection program entails the risk that the remaining hamsters will have disappeared by the time the next generation of more effective agri-environment schemes for hamster-friendly management will come into force. This danger is further heightened by the modest population targets, which make it unlikely that the species will be able to 'maintain itself' any time soon, as required by Article 1(i) of the Habitats Directive. The simple fact that it took a staggering one and a half year to appoint a hamster coordinator can be seen as a further illustration of the persisting lack of urgency that prevails in this respect.

Lastly, one might wonder why, in sharp contrast to the recently adopted French conservation plans, no additional attention has been paid to further measures aimed at the protection of the few remaining burrows still present in the hamster zone. Admittedly, the conventional view holds that mere protective measures are unsuitable when hoping to recover a species on the threshold of extinction. Even so, as demonstrated by the French hamster case, France was required under Article 12(1) of the Habitats Directive to enact stricter planning rules in order to assess the impact of new spatial developments in hamster repopulation areas. No such measures are put forward by the Flemish hamster protection program. Hence, rather ironically, the Flemish hamster protection program seems to be deficient in terms of offering further protection against seminal future threats. Granted, the generic protection rules, as included in the Flemish Species Protection Regulation, are apt to avoid further losses for the remaining Common hamsters. Yet even assuming a stricter enforcement of these protection rules in future planning procedures, it still remains uncertain whether the said measures are effectively capable of protecting future repopulation areas, if necessary. This could for instance help safeguard the second hamster zone in *Leuven-Bertem*, which will be subject to further habitat restoration measures from 2020 onwards.

As the Flemish Region is one of the most ur-

[219] Ibid, p. 13.
[220] *La Haye et al.*, *supra* note 133.

banized regions of Western Europe, additional protection measures to preserve future repopulation areas might not be deemed superfluous, even if it is not as such required by Article 12(1)(d) of the Habitats Directive. Furthermore, the proactive creation of migration corridors is crucial to recreate viable pockets of hamster populations, especially in a context of isolated populations that are present in sub-optimal habitats.[221] Ultimately, it can be maintained that is very unlikely that the Flemish approach probably will safeguard a patchwork of sufficiently interconnected hamster populations by 2020 or even 2025.

5.3 The non-binding nature of recovery measures: opting for a more reconciliatory approach?

As alluded to above, the Flemish government was of the opinion that the creation of strictly managed hamster areas constituted an essential part of a workable recovery strategy when drafting up the first generation of hamster conservation plans back in the 2000s.[222] Even so, the recently adopted hamster protection program does not put forward the creation of so-called 'hamster reserves', which are subject to strict protection and hamster friendly-management measures. Rather, it almost exclusively relies on agri-environment contracts and covenants, which are expected to foster hamster-friendly measures. This finding should not be surprising in itself, since the designation of protected sites (Natura 2000) is merely imperative for species that are included in Annex II to the Habitats Directive. By contrast, the Common hamster is listed in Annex IV, which means that it is subject to 'horizontal' protection rules, that are applicable throughout the whole territory of a EU Member States.

Evidently, resorting to voluntary measures in the farmland nature might be an attractive policy option. Given the fact that the presence of the Common hamsters is almost exclusively limited to agricultural lands, the importance of bolstering sufficient support amongst farmers is undisputed. Reconciliatory instruments, such as agri-environment schemes, can help in solidifying the support for hamster conservation amongst the stakeholders. Yet in view of the earlier criticism of the European Commission in this respect, the question still remains whether, legally speaking, a EU Member State is allowed to confine recovery efforts vis-à-vis protected species to voluntary agreements aimed at fostering the implementation of hamster-friendly crops and agricultural practices when the said species finds itself on the brink of extinction.

As such, national practices have demonstrated that, for instance, agri-environment contracts for hamsters could be effective in some instances, especially when strictly monitored and re-evaluated, sufficiently funded and provided that they do not given rise to an unnecessary administrative burden.[223] Indeed, in some cases, a more balanced facilitative approach, encompassing a carrot-and-stick approach, might give rise to better results in the field than a rigid enforcement policy since it allows to manufacture consent on the recovery measures needed. And, in the specific context of the Flemish hamster protection program, flexible management is put forward by recent research as an effective tool to achieve further successes in species recovery.[224]

Going back to the specific context of the Flemish hamster protection program, it is evident

[221] *Neumann et al.*, *supra* note 39, p. 191.
[222] *De Wielewaal & Natuurvereniging v.z.w.*, *supra* note 141, p. 34.
[223] *La Haye et al.*, *supra* note 133.
[224] Flemish hamster protection program, *supra* note 28, p. 37.

that the hamster coordinator will play a crucial role in fostering enthusiasm amongst farmers to get enrolled in the agri-environment contracts. Yet although successful in some instances, recent studies challenge the long-term beneficial effects that are yielded by agri-environment schemes.[225] In the scientific literature, it has been concluded that participation in agri-environment schemes is not 'simply a matter of weighing the money against the effort for adaptation'[226]. As illustrated by previous experiences with hamster-friendly agri-environment schemes in the Netherlands and France, it remains particularly difficult to convince farmers to sign up for such measures, especially when they are accompanied by a set of complicated restrictions.[227] For instance, in the course of the first Dutch hamster conservation plan, which relied intensively on agri-environment schemes, only three farmers decided to participate. The Dutch example also aptly revealed that sufficient and enduring financial compensation needs to be provided in order to ensure that the contractual measures are attractive enough and that a continued commitment can be expected from the farmers.

Most importantly though, and in sharp contrast to the Flemish approach, both the Dutch and French conservation plans do not exclusively rely on measures of a voluntary nature. For instance, in the context of the recent Dutch conservation plans, strictly managed 'hamster reserves' are established through land acquisitions.[228] In the Netherlands, the aim is to acquire at least 200 hectares of strictly managed hamster reserves in the coming years. These areas are no longer subject to contractual measures, but are managed by nature conservation organisations in order to establish sustainable hamster core areas, around which more flexible tools, such as contractual measures, can be further implemented. And while voluntary measures should probably remain the primary focus of the Dutch hamster conservation measures, the presence of permanently protected hamster habitats might serve as a useful fallback-option, alongside with the Common hamsters that are kept in captivity, whenever the contractual measures fall short of protecting the remaining populations.

In light of the earlier criticism of the European Commission on the exclusive voluntary nature of the previous Flemish conservation efforts between 2000 and 2007, the continued reliance thereon might ultimately backfire for the Flemish government. For, if the voluntary measures fail, no other tools are available to avoid imminent extinction. Admittedly, EU Member States do enjoy some margin when establishing conservation measures for threatened Annex IV species. However, this leeway is considerably limited whenever the species find itself in an unfavourable conservation status, such as is the case for the Common hamster. In addition, the Commission indicated in its 2007 Guidance on Strict Species Protection that, while EU Member States could ensure compliance with respect to potentially harmful agricultural practices through guidance and codes of conducts, 'such approaches and tools complement rather than replace formal legal protection, *i.e.* if these tools (e.g. codes of conduct, best practices) are ignored, there must be legal procedures in place in order to ensure an effective system of strict protection for animal

[225] *N. Reid, R.A. McDonald & W.I. Montgomery*, Mammals and agri-environment schemes, J. Appl. Ecol. 2007, 44, pp. 1200–1208.

[226] *A. Van Herzele, A. Gobin, P. Van Gossum, L. Acosta, T. Waas, N. Dendoncker & B. Henry de Frahan*, Effort for money? Farmers' rationale for participation in agri-environment measures with different implementation complexity?, Journal of Environmental Management, 2013, 131, pp. 110–120.

[227] *La Haye et al.*, *supra* note 133; *O' Brien*, *supra* note 6, pp. 92–93.

[228] *Provincie Limburg*, *supra* note 163.

species'.[229] In its previous case-law, the CJEU has also underscored that EU Member States cannot suffice simply by exclusively relying on voluntary measures in order to comply with their conservation duties under the Habitats Directive.[230]

In other words, if implemented within a wider conservation approach, agri-environment measures are expected to play a vital role in the path to recovery of the Common hamster. Yet it needs to be guaranteed that these agri-environment measures are effective and adequate. For instance, in the French hamster case, the CJEU noted that the objective of 22% crops favourable to the Common hamster, which had to be achieved through agri-environment measures, had been achieved in only one of the three priority action areas. Accordingly, by failing to lay down strictly protected 'hamster reserves' as a key tool to ensure resilient hamster populations, the Flemish Region risks facing new infringement proceedings if it can be established that the contractual measures do not give rise to positive results in a short time frame. It can thus be concluded that, legally speaking, a more cautious approach would have consisted in permanently acquiring land in hamster core areas for hamster protection in the short term, supplemented by the implementation of contractual measures on the surrounding agricultural lands.

5.4 Economic and social considerations: a lost cause or well-spent money?

As indicated, the Flemish government allocated 623,500 EUR to the implementation of the recently adopted hamster species protection program.[231] These numbers appear impressive on paper. However, the available money stands in sharp contrast to the funds that have been allocated to the survival of the Common hamster in the French Alsace (around 10.3 million EUR) and the Netherlands (more than 1 million EUR had been allocated to hamster research by the year 2011).[232] Regardless of the exact amount of money spent of the survival of the Common hamster, some critics might wonder whether such amounts of money for species on the brink of extinction are justifiable in times of budgetary austerity.[233] For instance, at several points throughout the Flemish hamster protection program, it is stressed that budgetary restrictions must be taken into account when further implementing the purported restoration measures.[234]

The gradual approach underpinning the intermediate population targets is also illustrative of this point. Some might contend that this more pragmatic stance is understandable in view of the important challenges that needed to be tackled. For one, saving the species in the short run might be more important than coming forward with over-ambitious population targets that are deemed to be unrealistic given the exclusive presence of the species on agricultural lands. Such approach might also be reasonable in view of the significant budgetary impact of the latter policy option. Moreover, making political compromises always requires some leeway and discretion, which are needed to appease conflicting interests. This might in part help to explain why the Flemish Government did not deem it necessary to develop a more robust recovery strategy,

[229] Guidance on Strict Species Protection, *supra* note 50 p. 31.
[230] See, by analogy: Case C-96/98, Commission v France [1999] ECR I-8531, para. 26–27.
[231] See: http://www.vilt.be/623500-euro-voor-redden-van-wilde-hamster (Accessed 10 February 2017).
[232] *O' Brien*, *supra* note 6, pp. 91–92; Korenwolf blijft zorgenkind, Trouw, 10 mei 2011, https://www.trouw.nl/groen/korenwolf-blijft-zorgenkindje~ad4a93f2/ (Accessed 10 February 2017).
[233] See more extensively on the costs linked to conserving Common hamsters: *Eppink & Wätzold*, *supra* note 2, p. 802–808.
[234] See for instance: Flemish hamster protection program, *supra* note 28, p. 22 and 47.

aimed at the creation of a patchwork of subpopulations in the range still populated by Common hamsters at the time of the entry into force of the Habitats Directive in Belgium. Whereas the latter approach would arguably make more sense in terms of ecological sustainability, it would require the launch of an expensive acquisition program and the payment of even bigger amount of subsidies for hamster-friendly management.

As to the socio-economic impact of recovery schemes, reference is to be made to Article 2(3) of the Habitats Directive, which states that measures taken pursuant to the Habitats Directive are to take economic, social and cultural requirements into account, as well as local characteristics. Evidently, these considerations need to be taken into account when drawing up hamster conservation plans. However, it should be noted that social and economic interests may not undermine the aim of achieving a favourable conservation status for Annex IV species. Since the room for derogation is explicitly defined in Article 16(1) of the Habitats Directive, it must be held that mere generic economic considerations can therefore not justify a lack of adequate protective and recovery measures on the part of the EU Member States.[235] In contrast to other EU environmental directives, such as the Water Framework Directive[236], the Habitats Directive does not include a concrete timeframe for the achievement of the recovery objectives.[237]

Evidently, the lack of a clear-cut deadline in the Habitats Directive as to achieving the favourable conservation status grants some additional leeway to the EU Member States. However, in a recent 2016 ruling concerning the non-deterioration obligation referred to in Article 6(2) of the Habitats Directive, the CJEU ruled that '(s)o far as concerns the economic cost of the steps that may be considered in the review of alternatives, including the demolition of the works already completed, as relied on by the referring court, it must be stated, as the Advocate General states in point 70 of her Opinion, that that is not of equal importance to the objective of conserving natural habitats and wild fauna and flora pursued by the Habitats Directive'.[238] *A fortiori*, EU Member States should therefore not be allowed to invoke economic concerns as a justification for poorly drafted and potentially ineffective recovery programs, especially in situations where the restoration challenge is partly the result of earlier non-compliance with the applicable protection rules. Returning now to the Flemish hamster protection program, it can be argued that, while aiming for hundreds of individuals in short time frames might perhaps constitute a sensible strategy in order to foster wider acceptance of the conservation efforts amongst farmers in the long run, such socio-economic consideration must not undermine the ecological viability of the program. The recently adopted hamster conservation plans in the surrounding EU Member States illustrate that setting higher population targets is not to be deemed unreasonable or unattainable, even when taking into account the interests of the different stakeholders, in order to ensure the long-term viability of the species. If France explicitly aimed for the restoration of three hamster zones with 1 500 individuals and the Netherlands aim to re-establish core areas consisting of 300 hectares

[235] Opinion Advocate General Kokott, *supra* note 72, para. 85.

[236] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy [2000] OJ L 327, p. 1 (further referred to as 'Water Framework Directive').

[237] See for instance Article 4(1)(a)(i) of the Water Framework Directive. See more extensively: *H. Josefsson*, Ecological Status as a Legal Construct – Determining its Legal and Ecological Meaning, Journal of Environmental Law, 2015, pp. 231–258.

[238] Grüne Liga Sachsen eV, *supra* note 87, para. 77.

or more of hamster-friendly habitat, then why not apply the same ambition level in the Flemish Region?

6. Conclusion: an expensive requiem for the Common hamster?

As the number of species becoming extinct on our planet continues to increase, ecological restoration has gained traction as one of the most promising instruments among lawmakers, scientists and politicians. The paradigm is increasingly shifting from an exclusive focus on conserving the status quo to prompting more encompassing recovery measures for threatened species and, more broadly speaking, ecosystems. The sheer size of this conservation challenge, which is sometimes referred to as a 'sixth mass extinction wave'[239], requires continuous and ambitious investment in order to be successful. And since investing money in saving species is still not a political top-priority – not even for charismatic species like the Brown bear – some now advocate the prioritisation of species in view of the multiple challenges that have to be faced. This approach, which is often tagged 'ecological triage', implies that, since there are limitations to resources such as time, money and manpower, it is important to prioritize specific efforts and distribute resources efficiently.[240]

The plight of the Common hamster in Western Europe, which has been extensively studied in this article within the specific context of the Flemish Region, aptly illustrates the many hurdles and complexities faced when trying to implement effective recovery measures on the ground. Instead of treating the wild hamster as a flagship species for the fast-disappearing farmland nature across the countryside, the main policy response consisted of drafting ambivalent conservation strategies. The slow and inconsistent response of the Flemish Government in implementing further measures to conserve and protect the declining populations in the past decades has only exacerbated the ongoing negative trend. As starkly illustrated by the outcome of the recent REFIT Check of the Habitats and Birds Directives[241], such a conclusion is by no means exceptional within the EU. Even more so, the continuous non-compliance has jeopardised the conservation status of the Common hamster and turned its survival into a unnecessary costly affair, prone to create additional frustration among farmers and project developers. The delays associated with the implementation of half-hearted conservation plans and the absence of effective enforcement have now rendered the rodent species dependent on the implementation of active breeding programs and reintroduction efforts for its long-term survival. This implies that also sites where hamsters are currently not present but which harbor potential habitat will need to be subjected to stricter rules. In spite of the aspi-

[239] *A.D. Barnosky et al.*, Has the Earth's sixth mass extinction already arrived?, Nature, 2011, 471, pp. 51–58.

[240] See more extensively: *E. McDonald-Madden*, *P.W.J. Baxter* & *H.P. Possingham*, Making robust decisions for conservation with restricted money and knowledge, Journal of Applied Ecology, 2008, pp. 1630–1638.

[241] The European Commission concluded, among other things, that 'full achievement of the objectives of the Nature Directives will depend on substantial improvement in their implementation in close partnership with local authorities and different stakeholders in the EU Member States to deliver practical results on the ground for nature, people and the economy in the EU'. See also: European Commission, Commission Staff Working Document – Fitness Check of the EU Nature Legislation (Birds and Habitats Directive), SWD(2016) 4725 final, available at: http://ec.europa.eu/environment/nature/legislation/fitness_check/index_en.htm (Accessed 10 February 2017). A similar conclusion also arises from the 2017 Special Report of Auditors on the implementation of the Natura 2000 Network. See: European Court of Auditors, Special Report: More efforts needed to implement the Natura 2000 Network to its full potential, 2017, http://www.eurosai.org/en/databases/audits/More-efforts-needed-to-implement-the-Natura-2000-network-to-its-full-potential/ (Accessed 10 February 2017).

rational recovery pledges, the continuous underfunding and the previous implementation deficiencies surrounding the first conservation plans have made the Common hamster a 'no-hoper', whose extinction appears inevitable due to the change in agricultural practices.

The recently adopted Flemish hamster protection program encompasses reintroduction efforts and habitat restoration measures, and therefore is to be regarded as a topnotch example of the recovery approach in the context of the Habitats Directive. To some extent, it can be tagged as a progressive implementation of recovery-based conservation planning based upon a comprehensive scientific understanding of the species' main threats. However, a detailed analysis resulted in a more mixed picture. While ostensibly progressive and science-based, the population targets and acreage of hamster-friendly habitats appear to be insufficient in order to create viable populations. The combination of the modest population goals included in the Flemish protection program, which arguably can be presented as a more pragmatic approach toward species recovery, and the further delays when implementing the actions, might ultimately turn it into yet another stark illustration of an underperforming species conservation plan. The additional fact that it almost exclusively relies on contractual measures, while understandable to some extent, makes it vulnerable from a legal point of view, especially if the modest populations goals are not achieved.

Ultimately, this article serves as a stark reminder that, unless taken seriously, the recovery rationale will not yield long-term successes. Evidently, reversing the current biodiversity crisis will require more than focusing exclusively on the recovery of highly endangered species, such as the Common hamster. Yet at the same time such species can function as keystone species for broadly formulated restoration efforts across the countryside. In order to avoid that more money is wasted on futile yet expensive restoration actions, recovery programs for such highly endangered species should include, if necessary, comprehensive recovery and robust habitat restoration measures, and be directed at the realisation of population levels that go beyond the MVPs while taking into account the genetic health of the remaining populations and the species' habitat requirements. Against this backdrop, adaptive management, improved stakeholders awareness and robust communication strategies, aimed at the relevant stakeholders whose participation is crucial for the success of the recovery actions, are to warrant the continuous performance of such programs.

In view of the clear-cut recovery rationale that is prevalent in EU nature conservation law, national judges should therefore no longer defer from reviewing deficient recovery plans in light of the substantive criteria set forward by the Habitats Directive. For flawed conservation plans could, paradoxically, merely serve as an expensive *requiem* for declining species. This is not only deplorable from the perspective of the said species, but might eventually diminish the much needed support among the wider public for future recovery efforts for other endangered species.